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SOME RECENT TENDENCIES IN STATE NORMAL SCHOOLS

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For a considerable period the writer has had occasion to interest himself in certain aspects of the progress that within the past ten or twelve years has characterized training for the profession of teaching as given by state normal schools. To the end that such progress might be evaluated from something like a truly chronological and not merely contemporaneous standpoint, it was deemed desirable that a comparative study covering a period of approximately a decade should be made for each of a given number of representative schools. In pursuance of this purpose requests for catalogs corresponding to the years 1903-04, 1913-14, were mailed to each of more than 150 selected schools representing all sections of the country, east, west, north, and south. Responses of some sort were obtained from the authorities of all the schools. From many schools, however, it was impossible to procure catalogs, since those corresponding to the earliest of the years mentioned had not been preserved. In still other cases the particular catalog furnished did not contain the specific information desired. Data were procured from supplementary sources to confirm the facts provided by catalogs or to furnish needed materials that would otherwise, through absence of catalogs, have been unavailable.

The 60 pairs of catalogs for 1903-04 and 1913-14 used at one stage or another in this series of investigations correspond to schools located in 35 different states, as herewith indicated:

North Atlantic Division:	
Connecticut	3
Maine	1
Massachusetts	4
New Hampshire	1
New Jersey	1
New York	2
Pennsylvania	3
Rhode Island	1
	16

North Central Division:	
Illinois	4
Indiana	1
Iowa	1
Kansas	1
Michigan	2
Minnesota	4
Missouri	3
Nebraska	2
North Dakota	1
Ohio	2
South Dakota	2
Wisconsin	2
	25

Southern Division:	
Alabama	1
Georgia	1
Kentucky	2
Louisiana	1
Maryland	1
North Carolina	1
Virginia	1
West Virginia	1
	9

Western Division:	
Arizona	2
California	2
Colorado	1
Idaho	1
Montana	1
New Mexico	2
Washington	1
	10

It should be taken into account that the purpose of the writer is not to make a complete statistical survey of the present status of state normal schools. It is rather his aim to exhibit specific tendencies on a truly chronological basis. The geographical distribution and the varied character of the schools selected give us, moreover, a fair sampling rather than a picked lot, and for this reason the tendencies hereinafter set forth may be said to typify fairly the practices of the average or median school the country over.

The present installment of the series concerns itself with tendencies as regards the sex distribution of teachers and students and the academic and professional training of teachers in state normal schools. The procedure employed is three-fold: we first exhibit the comparative data compiled in tabulated form; we next interpret those data as reflecting certain tendencies; on the basis of those tendencies we ground such suggestions for change or improvement as the conditions obtaining in each case may seem to justify. The treatment is thus inductive: the facts appear first, interpretations or suggestions invariably take second place, and a line of strict demarcation separates the former from the latter.

Sex Distribution of Students.—Table I indicates the sex distribution of students in 30 schools compared for 1903 and 1913. Several outstanding tendencies are clearly revealed.

TABLE I: SEX DISTRIBUTION OF STUDENTS
(30 Pairs of Catalogs)

Section of States	No. of Schools	Number of male students		Number of female students		Total number of students		Percentages of student increase or decrease			Proportion of male to female students	
		1903	1913	1903	1913	1903	1913	M.	F.	T.	1903	1913
No. Atlan.	10	810	699	3153	4965	3963	5664	—14	57	43	1-3.9	1-7.1
No. Centr.	14	2277	3383	6802	15264	9079	18647	48	123	105	1-2.9	1-4.5
South. . . .	3	235	571	704	1520	939	2091	142	115	122	1-2.9	1-2.6
West.	3	119	283	719	2702	838	2985	137	275	256	1-6.0	1-9.5
Total.	30	3441	4936	11378	24451	14819	29387	43	114	98	1-3.3	1-4.9

In all sections except the North Atlantic we find very substantial increases in the number of male students, and everywhere very large increases in that of female students. The largest gain for the men is in the south, and that for the women is in the west. The total increase for both sexes is 98%, indicating that the enrollment of students in all sections has almost doubled within the past ten years. In order that the significance of these figures may not be misinterpreted, it should be stated that they do not include the enrollment of model school pupils. They do, however, include the enrollment of students in the several summer schools. There seems to be no valid reason why the latter mode of computation should not be followed, especially since it is as fair for one year and one sex as for the other. Summer school students are, moreover, bona fide students, although their attendance is confined to only one portion of the entire academic year. Had they been excluded from the calculation, the absolute increases for both sexes would have been largely reduced, but the relative increases and the proportions would not have been measurably affected.

It is these relations between the sexes in terms of enrollment that claim our special attention. Table I indicates that while the increase for male students is only 43%, that for females is 114. While, moreover, the proportion of male to female students in 1903 was as 1 to 3.3, for 1913 it is as 1 to 4.9. A further significant fact which the table does not expressly indicate is that, while in 1903 the males constituted 23.2% of the total student body, their representation

in 1913 is reduced to 16.8% of the whole. The female contingent has, on the other hand, increased from 76.8% of the total enrollment in 1902 to 83.2% in 1913. Figures for the entire country taken from the report of the United States Commissioner of Education for 1912 (Vol. II, page 405) show that the females constitute 75.3 and the males 24.7% of the total normal school enrollment. Corresponding statistics for 1902 give to the females 67.8 and to the males 32.2% of the student enrollment in normal schools. The statistics of the commissioner cited here have reference, of course, to only public or state normal schools, as do our own.

We find, therefore, that while the enrollment of normal school students is increasing for both sexes in absolute figures, the gain for the females is much greater than that for the males, and the proportion the males bear to the total is considerably smaller than it was ten years since. What is the significance of this tendency, this movement toward the feminization of the student body? What bearing, if any, on the problems of professional training does this fact have? A detailed discussion of this point does not fall within the necessary purview of this study. The foregoing figures are cited here solely to present the circumstances as they exist; the correct interpretation of the conditions and rational suggestions for the solution of the problem, if solution is in fact needed, must, in so far as this study is concerned, be left an open question. Perchance some investigator of the social composition of the teaching population might find here a fruitful field for exploitation. Are women displacing men as teachers throughout the country as rapidly as the figures cited would seem to indicate? It must be considered, too, that the disparity between the proportions of the two sexes is even greater in the case of graduates of normal schools than in that of students. The catalogs have not furnished data utilizable for computations on this point, but statistics cited in the report of the United States Commissioner of Education for the year ended June 30, 1912 (Vol. II, page 405) show that of 17,414 graduates of public normal schools for the entire country 2,208 or 12.7% were males, and 15,206 or 87.3% were females. Has the normal school failed to popularize itself as an instrumentality for the training of men looking to the profession of teaching? There is a very large proportion of men who regard teaching chiefly or solely as a make-shift,—something to be followed only as a temporary expedient and to be discarded at the first opportunity for other work offering better emoluments. There are many other men who look to teaching not as

an avocation but as a genuine profession, and who dedicate to it their most serious and their permanent effort. It is possible that neither of these classes finds the normal school essential to its purpose. May it not be that men who belong to the former group do not feel themselves justified in making the sacrifices necessary to procure a normal school education, while men who correspond to the second group find normal school training inadequate to their needs? Is the normal school reconciled to the status of a professional school whose sphere is being increasingly narrowed to the preparation of only female teachers for all grades of work, elementary as well as secondary? Surely, if the normal school is to compete at all successfully with the college in the training of teachers for secondary schools, the tendency toward feminization of the student body presents an issue worthy of serious consideration.

Sex Distribution of Teachers.—Table **II** presents some facts regarding the sex distribution of teachers. The figures given have been made to include teachers in the model or training school for two reasons: (1) Model school teachers are as truly instructors of normal school students as the heads of the several regular departments; (2) the computation so made is as legitimate for one of the two years concerned as for the other, and the accuracy of the percentages of teacher increases and of the proportions of male to female teachers is not thereby impaired. It is these percentages and proportions that are the most significant factors in the results shown.

TABLE **II:** SEX DISTRIBUTION OF TEACHERS
(43 Pairs of Catalogs)

Section of States	No. of schools	Number of male teachers		Number of female teachers		Total number of teachers		Percentage of teacher increase			Proportion of male to female teachers	
		1903	1913	1903	1913	1903	1913	M.	F.	T.	1903	1913
No. Atlan.	11	82	102	204	284	286	386	24	39	34	2.4	2.7
No. Centr.	17	224	358	270	432	494	790	59	60	59	1.2	1.2
South. ...	7	42	78	83	145	125	223	85	74	78	1.9	1.8
West.....	8	62	90	76	170	138	260	45	123	88	1.2	1.8
Total.....	43	410	628	633	1031	1043	1659	53	63	59	1.5	1.6

Table **II** indicates, as would have been expected, percentages of increase for teachers of both sexes in all parts of the country, the gain for the males being greatest in the west, and that for the females in the south. The percentage of

increase for all teachers in all sections is 59, while that for the females alone is 63, and that for the males alone is 53. The proportion of men to women teachers for 1903 is practically the same as that for 1913, the ratios being 1 to 1.5 and 1 to 1.6, respectively. In 1903 the male teachers constituted 39.3% of the entire body of normal school instructors, while for 1913 their representation is reduced to 38%. The proportion of women teachers to the entire teaching body has, on the other hand, increased from 60.7% for 1903 to 62% for 1913. My figures for 1913 are paralleled with remarkable closeness by those found in the report of the United States Commissioner of Education for the year ended June 30, 1912 (Vol. II, page 412). The latter show that of normal school teachers in service in the entire country (reference is made to only public or state normals) 36.4% were males and 63.6% were females. Corresponding statistics for 1902 give to the females 64.7 and to the males 35.3% of the entire normal teaching corps.

We note, therefore, that while the tendency is toward large increases for both male and female teachers in state normal schools, the latter are gaining faster than the former, in so far as the schools compared in this study indicate. Since, however, the statistics given by the commissioner as cited above show a slight decrease for the proportion of women and a small increase for that of men teachers for the entire country in 1912 as compared with 1902, it is obvious that the male teachers are maintaining a much better numerical status than the male students.

Academic and Professional Training of Teachers

a. *Sex distribution of teachers holding degrees.*—Thorndike has well said that " the amount of education which teachers have themselves had is important as a partial measure, not only of their training for the work, but also of their native capacity. For continuance through high school and normal school or college means, commonly, superiority in intellectual interests and capacities, and in the moral qualities of perseverance, stability, and good will." [1]

Table III presents some data for 1903 and 1913 showing the sex distribution of normal school teachers holding degrees. As in Table II so here I have included training or model school teachers in the reckoning. It has to be conceded, of course, that the mere fact that a teacher holds a degree affords no infallible criterion in terms of which we may evaluate his efficiency as an instructor. There is, never-

[1] E. L. Thorndike. Education, p. 254. New York, 1912.

TABLE III: SEX DISTRIBUTION OF NORMAL SCHOOL TEACHERS HOLDING DEGREES
(40 Pairs of Catalogs)

Section of States	No. of Schools	Bachelors				Masters				Doctors			
		M.		F.		M.		F.		M.		F.	
		1903	1913	1903	1913	1903	1913	1903	1913	1903	1913	1903	1913
North Atlantic.	8	16	18	18	40	23	21	15	13	10	17	0	2
North Central .	16	55	90	57	134	64	107	20	56	22	30	3	0
South.....	7	9	25	8	29	7	21	0	8	5	7	2	1
West.....	9	20	36	17	47	20	35	8	21	11	10	7	3
Total.....	40	100	169	100	250	114	184	43	98	48	64	12	6
Grand totals..	1903	200				157				60			
	1913	419				282				70			

theless, as Thorndike has indicated, an undoubted correlation between amount of training and teaching capacity, and the former may justly be regarded as a very important index to the latter. There is the further consideration that not the same consequence attaches to the same degree as conferred by various collegiate institutions, because these differ one from another as regards requirements and standards almost as much as do the normal schools themselves. But the worth of the institution conferring the degree is, as a matter of fact, nothing with which this study has primarily to do. In a large number of cases, indeed, the name of the college or university granting the degree is not specified by the catalogs. I have, nevertheless, noted especially with regard to the degrees held by teachers in 1913 a very creditable representation of some of the best institutions in the country, a few of which are very conspicuous by reason of the numbers of their graduates doing service in normal schools.

The outstanding fact revealed by Table III is the tendency toward improvement in the training of normal school teachers in so far, at least, as absolute figures are concerned. We find for the 40 schools compared a total of 200 bachelors in 1903 divided equally between the two sexes. The total of bachelors for 1913 is 419 (169 males and 250 females), showing an increase of 109%. The total for masters for 1903 is 157, 114 males and 43 females; for 1913 it is 282, 184 males and 98 females, representing a gain of 79%. In 1903 we find 48 male and 12 female doctors, or a total of 60. In 1913 there are 64 males and 6 females, or a total of 70, giving

an increase of 17%. It must be understood, of course, that Table III does not show the entire number of degrees held by all teachers. It shows only the *number of degree-bearing teachers*, each teacher being credited with only the highest degree belonging to him. Otherwise, of course, in the cases of many schools the figures would indicate a larger number of teachers holding degrees than there are teachers altogether. The full significance of the foregoing statistics cannot, however, be got, unless we study the number of teachers having degrees in relation to the entire number of teachers employed. It is the percentages or relative figures rather than the absolute ones that really illuminate the situation.

b. *Percentages of degree-holding teachers.*—Table **IV** gives us information regarding the percentages of teachers holding degrees in 1903 and 1913. We find increases for the women

TABLE IV: PERCENTAGES OF DEGREE-HOLDING TEACHERS
(40 Pairs of Catalogs)

Section of States	No. of Schools	Number of teachers holding degrees				Entire number of teachers				Percentages of teachers holding degrees			
		M.		F.		M.		F.		M.		F.	
		1903	1913	1903	1913	1903	1913	1903	1913	1903	1913	1903	1913
North Atlantic.	8	49	56	33	55	76	92	134	174	64	61	25	31
North Central .	16	141	227	80	190	187	275	244	391	75	82	33	43
South.....	7	21	53	10	38	46	85	101	182	45	62	10	21
West.....	9	51	81	32	71	65	99	85	182	78	82	38	39
Total.....	40	262	417	155	354	374	551	564	929	70	76	27	38
Grand totals..	1903	417				938				44			
	1913	771				1480				52			

in all sections, and for the men also increases in all except the North Atlantic. The total for men has advanced from 70 to 76% and for the women from 27 to 38%. The last fact is all the more significant, in that, as already stated, the statistics include teachers of the model schools, nearly all of whom are women, but not many of whom hold degrees. Notwithstanding this apparent handicap, the women show a relative superiority, as the figures just cited indicate. The grand totals indicate an increase from 417 degree-holding teachers in 1903 to 771 in 1913. The total percentage for 1903 is 44, while for 1913 it is 52. Stated in negative terms, 56% of all normal school teachers in 1903 and 48% in 1913

had no degrees. My figures for 1903 correspond very closely to those of Meriam, whose investigation of 49 normal schools led him to the conclusion that 55% of normal school teachers in 1902 held no degrees.[1]

The tendency toward better collegiate and university training on the part of normal school teachers is, indeed, gratifying, but it is not so unmistakable as one might well wish. The figures indicate all too clearly that normal school teachers have in many cases failed to carry their education beyond the normal schools themselves. In close connection with this circumstance we find a tendency on the part of too many normal schools to employ as teachers a disproportionately large number of their own graduates. I have noted among others one western school of large distinction and of collegiate grade, that has found places for 50 of its graduates in a faculty of 122 members. A mitigating circumstance in this particular case is the fact that a number of these 50 graduates have procured higher degrees from other institutions. The exaggerated value, however, that the graduates of any normal school are liable to attach to its customs and traditions, makes this policy of so-called "inbreeding" one easily subversive of progressiveness, if it is carried to an extreme, and one needing close surveillance under even the most favorable conditions.

c. *Analysis of degrees.*—Table V analyzes the degrees held by the 417 teachers in 1903 and the 771 teachers in 1913 (see Table IV). Only the most important of these can be represented in tabular form. The "Miscellaneous" degrees are of many categories, such as B.Di., B.O., B.Mus., M.Di., M.E., etc. A few are purely honorary, as LL.D., D.D., etc. It will be noted that the total of degrees of all sorts has advanced from 477 in 1903 to 1060 in 1913, showing a gain of 122.2%. There is also an increase in the average number of degrees per teacher from 1.1 in 1903 to 1.4 in 1913.

Not too much significance, however, should be attached to these figures. As before indicated, some of the more familiar degrees held by teachers have been conferred by institutions of inferior rank, while the special or unusual character of still other degrees gives them doubtful value. To avoid arbitrariness in computation I have, however, had no recourse except to include *all* teachers to whom degrees are assigned by the catalogs (persons having the LL.D. are usually presidents of institutions, and always hold at least one earned degree besides). With even this advantage the

[1] J. L. Meriam. Normal School Education and Efficiency in Teaching. New York, 1905. See p. 147.

TABLE V: DEGREES ANALYZED

Section of States	Number of teachers holding degrees		Name of Degree																							
			B. A.		B. S.		Ph. B.		Pd. B.		B. L.		M. A.		M. S.		M. Pd.		Ph. D.		Pd. D.		Sc. D.		Misc.	
	1903	1913	1903	1913	1903	1913	1903	1913	1903	1913	1903	1913	1903	1913	1903	1913	1903	1913	1903	1913	1903	1913	1903	1913	1903	1913
No. Atlantic	82	111	24	42	9	13	2	7	0	3	2	0	28	33	4	4	1	1	10	14	0	3	0	1	13	16
No. Central.	221	417	47	163	24	74	19	35	2	16	8	8	70	128	9	16	2	3	21	28	3	2	0	1	37	85
South.....	31	91	7	47	6	28	2	6	2	4	1	0	9	29	1	3	0	1	6	8	0	1	0	0	9	18
West.....	83	152	23	56	7	40	8	12	6	21	5	5	18	39	6	7	2	12	17	12	2	0	0	1	5	14
Total.....	417	771	101	308	46	155	31	60	10	44	16	13	125	229	20	30	5	17	54	62	5	6	0	3	64	133

Total number of degrees		Average number of degrees per teacher	
1903	1913	1903	1913
477	1060	1.1	1.4

degree-holding teachers are able, as Table IV indicates, to muster only 52% of the entire number of normal school teachers in service in 1913.

d. *Classification of degrees.*—Table **VI** gives a classification of the degrees analyzed in Table V. The " Collegiate "

TABLE VI: DEGREES CLASSIFIED

Section of States	Number of collegiate		Number of higher		Number of pedagogical		Number of miscellaneous	
	1903	1913	1903	1913	1903	1913	1903	1913
North Atlantic	37	62	42	52	1	7	13	16
North Central	98	280	100	173	7	21	37	85
South	16	81	16	40	2	6	9	18
West	43	113	41	59	10	33	5	14
Total	194	536	199	324	20	67	64	133
Gain, per cent	176.2		63		235		108	

degrees comprise B.A., B.S., Ph.B., and B.L.; the " Higher " include M.A., M.S., Ph.D., and Sc.D.; and the " Pedagogical " comprehend Pd.B., M.Pd., and Pd.D. It will be seen that the latter have made the lowest absolute and the greatest relative gain. " The Collegiate " have made the largest absolute increase, as would be expected, and after the " Pedagogical " they have scored also the highest relative gain. The small number of " Pedagogical " degrees shows that, notwithstanding their large relative increase, they have as yet obtained only slight general vogue. The number of " Higher " or graduate degrees has also increased, but their relative gain is small as compared with that of either the " Collegiate " or " Pedagogical."

What are the considerations that we may deduce from this discussion of the institutional preparation of normal school teachers? It is evident, in the first place, that the normal school needs a considerably larger proportion of well trained teachers, if the professional training that it gives is to carry the necessary guaranties of workman-like and scholarly efficiency. We have shown, it is true, that the per cent of degree-bearing teachers has increased from 44 in 1903 to 52 in 1913. This gain does the normal school credit, but it leaves much to be desired. It indicates unmistakably, as we have already stated, that a large proportion of normal school teachers have not prolonged their training beyond that given by the institutions from which they themselves

graduated and in which they now serve as instructors. We have already referred to the inferior status of certain institutions conferring the customary collegiate degrees, and to the dubious significance of many of the less familiar degrees. There is the additional circumstance that not a few of the Ph.D's. are purely honorary, and that others of them have not been granted by institutions of approved standing.

What institutional training ought one to have to make him eligible to service as a normal school teacher? What norms or standards might be safely and logically applied? It is held generally that to teach in a college one must hold at least one graduate degree, and that of Ph.D. is coming fast to be considered as a *sine qua non*. Can any such standard be applied to the normal school?

Obviously not. It is, perhaps, not even necessary that the critic teachers in the model school, except those in charge of high school grades, be college graduates, though this would undoubtedly be preferable. It is manifest, however, that all regular teachers in the normal department should be at least college graduates; even the best high schools require this from their teachers. It is also evident that heads of departments should not only hold degrees conferred by collegiate institutions in good standing; they should also have at least one graduate degree representing advanced work of either academic or professional type. A reference to Tables III and IV shows that out of a total of 417 degree-bearing teachers in 1903, 60, or 14.3%, were Doctors, and 157, or 38%, were Masters. In 1913 there were 70 Doctors, or 9%, and 282 Masters, or 36.5%, out of a total of 771 degree-bearing teachers. We note, therefore, that while there is an absolute numerical increase for both Masters and Doctors, there is a slight relative decrease in the case of the former and a pronounced one in that of the latter. It is the proportions that are really significant, and the data show that the teachers holding advanced or graduate degrees are not even maintaining their relative status to say nothing of improving it. This is undoubtedly a matter for regret, and has a direct bearing on the efficiency of professional training. There is an evident need of more teachers of superior academic education and of specialized professional preparation for service in normal schools. All that we can say at the present is, there is a much stronger tendency toward the first of these qualifications than toward the second. It is further evident, when we reflect that only 52% of all normal school instructors hold any degrees at all, that no satisfactory standard regulating qualifications prerequisite to service in normal schools has yet evolved.

Summary.—The discussion of students and teachers in this study has indicated the following tendencies:

(1) A large increase in the total enrollment of normal school students for 1913 as compared with 1903. The males show a small absolute and a considerable relative, the females, an enormously larger absolute and relative gain. The ratio of male students to the entire number is considerably smaller for 1913 than for 1903, the disparity between the two sexes being much greater in the former than in the latter year.

(2) A large increase in the entire number of normal school teachers employed for 1913 as compared with 1903. The males show a considerable absolute and a large relative, the females, a slightly greater absolute and relative gain. The proportion of male teachers to the entire number employed in 1903 is slightly smaller than the corresponding ratio for 1913, while the proportion of females has a commensurate increase.

(3) A large increase in the entire number of normal school teachers holding degrees in 1913 as compared with 1903. The absolute increase for each of the sexes is almost identical, but in relative gain the females slightly surpass the males. The proportion of degree-bearing teachers to the entire number of teachers in service has advanced from 44% for 1903 to 52% for 1913.

LANGUAGE DEVELOPMENT DURING THE FOURTH YEAR

By George C. and Julia Brandenburg, Madison, Wisconsin

The Vocabulary

Introduction.—The environment of the child whose vocabulary is discussed in this study was essentially the same during the third and fourth years. The first ten months of the fourth year she lived in Boulder, Colorado, where she had abundant opportunity for outdoor life. Although an only child in the home, there were few days when she did not play somewhat with other children. In general there was more association with other children this year than during the third year. The latter part of her fourth year was spent in Madison, Wisconsin. Here she lived in the central part of the city, where there was scant opportunity to be in the open, although she was often taken for walks to the nearby lakes and parks. On the whole, approximately 80% of her waking hours during the year has been passed in the company of adults and 20% in association with other children.[1] Her favorite playmate in Boulder was a boy nine months younger then she, but she also played with other children varying in age from two to twelve years. G has been in perfect health during the entire fourth year. Her favorite playthings have been three inexpensive dolls; unfortunately she has never had pets for any length of time, but she has always manifested a keen interest in animals of any kind. She is very fond of stories and poems and often entertains herself repeating those she has heard and inventing new ones. In regard to her language development we have always followed a *laissez faire* policy, as we believe that the best way to secure good linguistic expression is through example rather than precept. Occasionally her language mistakes have been corrected, but more often she has been allowed to correct them of her own accord when she recognized her errors through observation of the speech of other people. Whether as a result of this or not, G has

[1] A brief biography of G for the first three years is given in an article, "The Language of a Three-Year-Old Child," in the *Ped. Sem.*, March, 1915, p. 89.

always seemed anxious to correct her linguistic errors and to make her speech approximate as nearly as possible that of her adult companions.

Method.—Various methods were employed in obtaining G's vocabulary for the fourth year. Approximately one month following her fourth birthday was spent in observing and recording words used. During the last few days of the period she was tested upon various words which we remembered that she had used previous to this time. Some words not discovered by either of these methods were obtained by using published vocabularies and the dictionary. It was early found that many words which she knew and used at three were no longer in use, and hence were not included in her present vocabulary. Obviously in so limited a period of observation a complete list of words used by the child could not be secured. However, later tests show that comparatively few words have been omitted.

Principles.—Since there is no uniformity of practice as to just what words should be included in a child's vocabulary and for other reasons which will appear later in the discussion, it has seemed best to give the vocabulary both with and without variants. At four years of age G acquires and uses regular inflections without great difficulty, but she evidently does not, for example, gain the use of the past tense and past participle of a verb simply through the acquisition of the present tense. Examples of this are found in the verbs "toot" and "urge" which are used only in the present tense. This is equally true of adjectives and adverbs. Considerable interest centers about the matter of inflections: What part of the vocabulary do variants form at different periods of development? Which forms give the child most trouble? When, if ever, do variants cease to be a source of difficulty? Such questions may be answered only if these forms are recorded in children's vocabularies, at least where the child does not use them without some difficulty.

No words have been included in G's vocabulary which she did not use spontaneously and correctly in conversation. Many numerals, terms from stories, songs, and poems, used in a purely imitative manner have thus been excluded. Names of persons and places used in a similar manner are also not counted.

Size.—Including regular variants except noun plurals, the vocabulary contains 3915 words; excluding all except irregular variants, it contains 3061 words. The vocabulary is

distributed among the different parts of speech as follows: Nouns 1728, verbs 716 (including variants 1510), adjectives 374 (including variants 427), adverbs 144 (including variants 150), pronouns 42 (including variants 43), prepositions 24, interjections 19, conjunctions 14. The fact that a normal child of four years may have a speaking vocabulary of almost or fully 4000 words causes one seriously to question the desirability or wisdom of limiting the vocabulary of a spelling book to two or three thousand words. Even though grammatically the variants may not be regarded as separate words, so far as spelling is concerned they certainly must be.

Increase.—The total increase during the year amounts to 1633 words if we count the 580 variants; variants omitted, the increase is only 1053. Since the vocabulary at three years was 2282, variants included, and 2008, variants excluded, the increase is seen to be 71% in the former case and 52% in the latter. Children in the public schools build up their vocabularies at the rate of approximately 1400 words per year, exclusive of variants.[1] Thus we find that G does not acquire words in her fourth year so rapidly as she will later. This is no doubt due to the fact that she gains new words now only through hearing them; whereas later she will get a large per cent of her new words through reading.

The increase in vocabulary is distributed among the parts of speech as follows:

	Words	Per cent
Nouns	557	47.5
Verbs (variants excluded)	251	51.8
Adjectives (variants excluded)	183	90.5
Adverbs (variants excluded.)	46	46.8
Pronouns	6	16.9
Prepositions	4	20.0
Interjections	4	26.6
Conjunctions	2	16.6
Variants:		
Verb	527	
Adjective	46	
Adverb	6	
Pronoun	1	
Total increase	1633	

Since the total increase in vocabulary is 52%, it is clear that the nouns have not increased as rapidly as one would expect. The cause of this is probably to be found in the

[1] This fact has been ascertained in an unpublished study which the author made in which the vocabularies of 2000 school children of various grades were tested.

child's interest and environment during the year and a partial explanation is found in the section dealing with nouns in detail. The greatest per cent of gain is seen to be in adjectives; the increase from 191 at three years to 374 at four years seems to mark this as a period of great growth of interest in and knowledge of the nature and characteristics of the persons, animals, and objects of the child's environment. The increase in verbs and adverbs is apparently about normal. In the other parts of speech few words have been added since G already possessed a sufficient fund of these at the end of the third year to meet her requirements for some time. In fact she had in her vocabulary at that time nearly all the words of these parts of speech which are used in the every-day conversation of her associates.

A very large part of the total increase in words is in variants, the number of these added being 580. At three years of age the variants constituted 12% of the entire vocabulary; while a year later they amount to 21.8%. The largest per cent of gain in variants during the year is in adjective forms. At three years she had scarcely begun to use comparatives and superlatives, while at four she employs 53 of these forms. It does not satisfy her any longer to say that a new dress is simply " pretty;" she must think of it in relation to other dresses and judge it " prettier " or " prettiest." The first regular adjective variants used, " deeper " and " deepest," were used in connection with playing " make garden;" these and five other regular adjective inflections were used previous to the fourth year. The first adverb forms " slower," " slowest," " faster," " fastest," " longer," and " longest " appeared during the fourth year in connection with play where running was involved. In both cases the necessity of making fine distinctions arose in relation to concrete play situations. Such words as " still," " early," and " naughty,"—static, time, and moral terms—have been used throughout the year, but only in the simple forms. Here vagueness of concepts makes keen discriminations, as yet, impossible; lack of interest may also be a factor in the postponement of the acquisition of such terms.

Comparison of Third and Fourth Year Vocabularies

An attempt is made in this section to determine to some extent, through a comparison of the contents of the vocabularies at three and four, along what channels mental growth has proceeded during the fourth year. A survey of the following table exhibiting the distribution of the parts of speech in the two vocabularies, shows that the proportions

have not changed greatly except in the case of adjectives where the increase has been disproportionately large. Naturally in the section of the table in which variants are included

	Regular variants included				Regular variants excluded			
	No. of words		Per cent		No. of words		Per cent	
Age	3	4	3	4	3	4	3	4
Nouns	1171	1728	51.3	44.1	1171	1728	58.0	56.4
Verbs	732	1510	32.0	38.6	465	716	23.0	23.4
Adjectives	198	427	8.7	10.9	191	374	9.8	12.2
Adverbs	98	150	4.3	3.8	98	144	4.9	4.7
Pronouns	36	43	1.6	1.1	36	42	1.8	1.3
Prepositions	20	24	.8	.6	20	24	1.0	.8
Interjections	15	19	.6	.5	15	19	.8	.6
Conjunctions	12	14	.5	.4	12	14	.6	.4
Total	2282	3915			2008	3061		

in the calculations, there is seen to be considerable disturbance in the noun and verb elements, due to the large increase in verb inflections. This is significant in revealing the increasing importance of word forms in the vocabulary.

Nouns.—A comparison of the fourth year nouns with those of the previous year suggests some change in the sources of G's vocabulary acquisition. This change is no doubt indicative in some measure of shifting interests and developing mental powers. We have prepared a table to portray as accurately as possible the environmental and interest sources of the nouns. The items are arranged in order of the per cent of increase.

TABLE OF NOUNS

	No. of words		Per cent		Per cent of increase
Age	3	4	3	4	
Indefinite	8	8	.6	.4	0
Play	176	196	14.2	11.3	17.3
Quantity	41	50	3.5	2.9	21.9
Food	157	193	13.4	11.1	22.9
Clothes	69	87	5.8	5.0	26.0
Topography	69	89	5.8	5.1	28.9
Body	51	68	4.3	3.9	33.3
Time	26	37	2.2	2.1	42.3
Animals	79	117	6.7	6.7	48.4
House	187	299	15.9	17.3	59.8
Health	24	39	2.0	2.2	62.5
Picture and story	9	15	.7	.8	66.6
Civilization	50	84	4.2	4.8	68.0
People	124	215	10.5	12.4	73.3
Position	6	12	.5	.7	100.0
Abstract	83	171	7.9	9.8	106.0
Plants	21	48	1.8	2.8	128.5
Total	1171	1728			47.5

At the age of three, we find among the seventeen groups of nouns four relatively large, namely: house, play, food, and people. At four, a fifth group has sprung into prominence and now we find these groups in the following order: house, people, play, food, and abstract. Animals, with 117 terms, are becoming an important interest but still they constitute only 6.7% of the total nouns at four, just as they did at three. Play and food appear to be relatively less important interests at four than they were at three, while house, people, and abstract terms are relatively more important. The largest per cent of increase is seen to be in plant terms, 128.5%. However, the actual number of words pertaining to plant life is still not large, especially when it is considered that G has spent a large part of her time out of doors. So far she has shown little interest in plant life and the large per cent of increase is to be accounted for partly by the smallness of the three year list and partly by a favoring environment. The large per cents of increase in position, and picture and story terms have little significance since the number of such terms is so small. Picture and story words, as before stated, are generally not included in the vocabulary.

It is not surprising that approximately 40% of the nouns in use at four years still pertain to objects in the home, play, and food; but it must be noted that the big per cents of growth during the year have not been along these lines. This is not taken to mean that the child is losing interest in these fields, but that she has more or less exhausted them and is beginning to explore new realms. This, no doubt, also explains the relatively small addition to the groups referring to body and clothes. The fact that the greatest expansion has been in abstract terms and in words from out-door sources,—plants, people, and civilization,—suggests a growing interest in, and appreciation of the facts of nature and life apart from herself. The rather slight increase of 28% in topography terms does not seem to bear out this explanation. We believe, however, that the smallness of this group of nouns at four is due to the fact that when we recorded her vocabulary she was living in Madison, a new environment, and had ceased using, to a great extent, the topography terms of the Boulder environment and had not yet acquired many such terms relating to her new surroundings.

Verbs.—Compared with the verb element in other child vocabularies, this group of words in G's vocabulary is rather large. Excluding regular inflections, we find that at three

years the verbs comprise 23% of the entire vocabulary and at four years, 23.4%. This obvious preference for action words, no doubt, indicates an unusual interest in action. G is seldom inactive for a minute at a time and is probably more constantly engaged in some sort of activity than most children, although one could hardly demonstrate such a statement.

Adjectives.—Since growth in inflections has been discussed in a preceding paragraph, regular inflections are not included in this summary of adjectives. The number of adjectives added during the year is 183; this makes an increase of 90% which is considerably in excess of that of any other part of speech. The following table exhibits the chief lines of adjectival growth.

	No. of words		Per cent		Per cent of increase
Age	3	4	3	4	
Articles	3	3	1.6	.8	0
Quantitative	24	31	12.6	8.5	29.1
Demonstrative	8	11	4.2	3.0	37.5
Color	10	18	5.2	4.8	80.0
Sense	34	63	17.3	16.3	85.3
Spatial	18	36	9.4	9.6	100.0
General	69	144	35.6	38.1	108.7
Moral	25	68	13.1	18.1	172.0
Total	191	374			90.0

The largest per cent of increase is in moral and aesthetic terms where 43 words were added, a gain of 172%. There are many evidences of growth in appreciation of things moral and aesthetic during the year. Such words as " fair," " wrong," and " worst," while still employed without keen discrimination, occur frequently in G's speech. The largest actual increase is seen to be in general qualifying terms and totals 75 words. Fairly large gains are also noted in spatial and in sense terms as well as in those denoting color. At three G used only ten color terms and two of these " light," and " shiny," were not names of colors. " Gray," " pink," " tan," and " purple," were still not used understandingly. At four the names of color had increased to ten and six other color terms had been added. The fact that she employs so few color names is probably due to our failure to provide proper stimuli; no pains have been taken to teach her colors and she has had none of the play apparatus designed to arouse interest in color. Whatever the cause, so far she takes little interest in color differentiation.

Adverbs.—The following table presents a comparison of the adverbs of the third with those of the fourth year classified according to meaning.

	No. of words		Per cent		Per cent of increase
	3	4	3	4	
Age					
Modal	7	8	7.1	5.5	14.2
Place	26	34	26.5	23.6	30.7
Time	28	38	28.5	26.4	35.7
Degree	18	29	18.3	20.1	61.1
Manner	19	35	19.4	24.3	84.2
Total	98	144			46.8

Adverbs relating to time and place were the first to appear in G's speech and at three years of age were still the two largest groups, constituting 55% of the entire number. At four these two groups have fallen to 50%, while those of manner and degree have risen from 37.7% at three to 44.4% at four. Time still occupies first place in actual number of words, but adverbs of manner now rank second. The most significant feature of the table is the fact that growth during the year has been largest in adverbs of manner and degree, indicating that interest in action is shifting from the " when and where " aspects to the " how and how much " phases. This is supported by the fact that nouns pertaining to time and place also show relatively small increases.

Conclusion.—Acquisition of new words has proceeded with no apparent interruption during the fourth year; there is nothing to indicate that G's vocabulary growth has not been fully as large as it was in the third year. There has been a significant gain in the fund of variants and in skill in using them, although G's mastery of this phase of language is by no means complete. The use of qualifying terms has become less purely imitative and physical and more spontaneous and meaningful—a change, however, which is still in its infancy. During the year there has been a general shifting of the chief sources of vocabulary augmentation from words relating to simple egoistic interests to those pertaining to people, nature, and abstract ideas.

Vocabulary at Four Years of Age

A, able, about (adv.), about (prep.), above, abuse (-ed, -ing), accident, ace, ache (n.), ache (-ing), " achoo," acquainted, across (adv.), across (prep.), act (-ed, -ing), afford, afire, afraid, after (adv.), after (prep.), afternoon, afterward, again, against, agent, ago, ahead, ails, ain't, air (n.), air (-ed, -ing), airship, "Alabam," alarm, album, alike, alive, all (n.), all (adv.), allow, all right, almost, alone (a.), alone (adv.), along (adv.), along (prep.), already, always, am, Amen, American, an, and, angel, angry, animal, animal-cracker, ankle, another, answer (-ed), ant,

anxious, any, anybody, anyhow, anything, anyone, anyway, anywhere, apart, apiece, appetite, apple, apple-sauce, apron, apt, Arapahoe, are, aren't, arm, arm (of chair), around (adv.), around (prep.), arrest, arrow, as (adv.), as (conj.), ashamed, ashes, ashpan, ashpit, ask (-ed, -ing), asleep, aster, at, ate, attic, aunt, auto, automobile, awake, away, awful, awfully, ax.

" Baa," baby (n.), baby (a.), back (n.), back (adv.), back (v.), backward, bacon, bacteria, bad (a.), bad (adv.), bag, bake (-ed, -ing), baked beans, baker, bakerman, baking (n.), balky, ball, banana, band, bang (n.), bang (-ing), bank, barber, barber shop, bare, barefoot, bareheaded, barely, bark (n.), bark (-ing), barn, barrel, basin, basket, basket ball, basting, basting thread, bat (-ing), batch, bath, bathrobe, bathroom, bathtowel, bathtub, batter, bawl, be, beads, " bean," beanbag, beans, bear, beat (-ing), beater, beating (n.), beautiful, beauty, beaver, because, bed, bedclothes, bedroom, bedtime, bee, beef, beefsteak, been, beer, beerbottle, beet, before, began, beggar, begin (-ing), begun, behave (-ing), behind (adv.), behind (prep.), believe, bell, belly, belong, below, belt, bench, bend (-ing), bent, berry, besides, best, bet, better, between, bib, Bible, bicycle, big (-er, -est), bill, " bing," bird, birthday, biscuit, bit (n.), bit (v.), bite (n.), bite (-ing), bitter, black (a.), black (-ed, -ing), blanket, bleed (-ing), bless, blew, blind, blinds, blister, blocks, blood, bloodberry gum, bloodblister, bloody, bloomers, blot, blotter, blow (-ing), blue, blueing (n.), blueing (v.), bluejay, board, boat, body, boil (-ed, -ing), boiler, bolt, bone, bonnet, book, bookcase, boost, boots, borax, borrow (-ed), " bossy," both (a.), both (pron.), bother (-ed, -ing), bottle, bottom, bought, Boulder, Boulder Canon, Boulder Creek, bound (determined), bounce, bouquet, bow, bowels, bowl, " bow-wow," box, boy, bracelet, braid (-ing), bran-bread, branch, brass, bread, bread-basket, bread-board, bread-can, break (-ing), breakable, breakfast, breakfast-food, breast, breath, breathe (-ing), breeze, brick, brick-cheese, bridge, bright (a.), bright (adv.), Brighton, bring (-ing), broke, broken, broom, broth, brother, brought, brown, brown-bread, brush (n.), brush (-ed, -ing), brute, bubble (n.), bubble (v.), bucket, buckle (n.), buckle (-ed, -ing), bud, bug, " bugger," buggy, build (-ing), building (n.), built, bulldog, bullet, " bum," bumblebee, bump (n.), bump (-ed), bunch, bunny, bureau, burglar, burn (n.), burn (-ing), burnt, burro, bush, bushel, business, " bust," busy, but, butcher, butcher-knife, butter, butterfly, buttermilk, button (n.), button (-ed, -ing), buttonhole, buy (-ing), buzz (-ing), by, by-and-by, bye-bye.

Cabbage, cage, cake, calf, calico, call (-ed, -ing), came, camel, Camera, camphor, campus, can (n.), can (v.), candle, candlestick, candy, cane, cannon, can't, cantaloupe, cap, car, card, cardboard, care (n.), care (v.), careful, careless, carpet, carrot, carry (-ed, -ing), cart, cat, catalogue, catastrophe, catch (-ing), caterpillar, Catholic, caught, ceiling, celery, cellar, cement, cents, certainly, chafing-dish, chain, chair, " chair (-ing)," chamber, change (n.), change (v.), chase (-ed, -ing) checker, checkerboard, cheek, cheese, chew (-ed, -ing), chicken, chicken-feed, chickenhouse, chick-feed, child, children, chilly, chimney, chin, chip, chocolate, choke (-ing), " choo-choo," chop (-ed, -ing), chopper, Christmas, Christmas-tree, " chuc-a-doo," church, cigar, cinnamon, cinnamon-roll, circus, cistern, city, clap (-ed, -ing), class, clean (a.), clean (-ed, -ing), clear, climb (-ed, -ing), clip, clippers, clock, close (a.), close (-ed, -ing), closet, clothes, clothes-bag, clothes-basket, clothes-brush, clothes-line, clothespin, clothes-stick, cloud, cloudy, clown, club, " cluck," coal, coal-bucket, coal-man, coal-scuttle, coal-shovel, coarse, coat, coax, " cock-a-doodle-doo," cocoa, cocoanut, codfish, coffee, coffee-grounds, coffee-pot, cold (a.), cold (n.), cold-cream, collar, color, Colorado, colored (a.), comb (n.) comb (-ed, -ing), come (-ing), comfortable, company, condensed-milk' conductor, Congregational, cook (n.), cook (-ed, -ing), cook-book, cookies

cool, copy (n.), copy (v.), cord, core, cork, corn, corn-bread, corner, corn-flakes, cornmeal, correct, corset, cost, cotton, couch, cough (n.), cough (-ed, ing), could, couldn't, count, country, couple, cousin, cover (n.), cover (-ed, -ing), cow, coyote, crack (n.), crack (-ed, -ing), cracker, cradle, cranberries, crank (n.), crank (-ed, -ing), cranky, crawl (-ed, -ing), crazy, cream, cream-pitcher, creek, creep (-ing), crept, crib, cribbage, cribbage, board, crochet, crochet-hook, cross (a.), cross (-ed, -ing), crown, crumb, crust, cry (-ed, -ing), cry-baby, cuddle, cuff, cuff-button, cunning (-est), cup, cupboard, cupful, curl (n.), curl (-ed, -ing), curly, currant, curtain, cushion, custard, cut (-ing), cute.

Dab, dabble (-ing), Daddy, dainty, damp, damper, dance (n.), dance (-ed, -ing), dancer, dandelion, dandy, danger, dangerous, dare, dark, darkness, darling, darn (-ing), darning-needle, dashboard, date, daub, daughter, day, daylight, daytime, dead, deal (n.), deal (-ing), dear (n.), dear (a.), dearie, death, December, decent, decide (-ed), deck, decorate, decoration, deep (-er, -est), delicious, delightful, Denver, Denver Post, depot, deserve, desk, dessert, destroy (-ing), devil, dew, diamond, dictionary, did, didn't, die (-ed, -ing), difference, different, dig (-ing), dimple, ding-dong, " dingy," dining-car, dining-room, dinner, dip (-ed, -ing), dipper, direction, dirty, disappear (-ed), dish, dish-cloth, dish-pan, disturb (-ing), ditch, dizzy, do (-ing), doctor (n.), doctor (-ing), does, doesn't, dog, doggie, doily, doll, dollar, doll-buggy, dollie, done, donkey, don't, door, door-knob, dose, dot, double, dough, doughnuts, doughy, down, downhill, downstairs, dozen, draft, drain, drank, draw (-ing), drawer, drawers, dreadful, dreadfully, dream (n.), dream (-ed, -ing), dreamt, dress (n.), dress (-ed, -ing), dresser, dressmaker, drew, dribble (-ed, -ing), drink (n.), drink (-ing), drip (-ed, -ing), drive (-ing), driver, drizzly, drop (n.), drop (-ed, -ing), drove, drown (-ed), drugstore, drum, drumstick, drunk, dry (a.), dry (-ed, -ing), duck, dug, dull, dump, dust (n.), dust (-ed, -ing), dustcloth, dustpan, dusty, Dutch, Dutchman.

Each (a.), each (pron.), ear, early, East, Easter, Easter-egg, easy, eat (-ing), eaten, eatables, edge, " ee-ee," egg, eggbeater, eight, either, elbow, electric, electricity, electric-light, elephant, eleven, else (pron.), else (adv.), embroider (-ed, -ing), empty (a.), empty (-ed, -ing), end, endways, engine, engineer, enjoy, enough (n.), enough (a.), entirely, envelope, errand, escape, even (a.), even (adv.), evening, ever, evergreen, evermore, every, everybody, everyday, everyone, everything, everywhere, exactly, excellent, except, excited, excuse, exercise (-ing), expect (-ing), extra, eye, eyebrow, eyelash, eyelid, eye-winker.

Face, face-cream, fact, fade, fair, fairy, Fairy Soap, fall (n.), fall (-ing), family, fan (n.), fan (-ed, -ing), fancy, far, farm, farther, fashion, fashionable, fast (a.) (-er, -est), fast (adv.) (-er, -est), fasten (-ed, -ing), fastener, fat (-er, -est), father, faucet, fault, fear, fearful, fearfully, feast, feather, feather-bed, February, fed, feed (n.), feed (-ing), feel (-ing) (trans.), feel (-ing) (intrans.), feet, fell, fellow, felt, fence, fever, feverish, few, fib (n.), fib (-ed, -ing), fiddle, fiddle-sticks, field, fierce, fifteen, fifty, fig, fight (-ing), fight (n.), fill (-ed, -ing), film, finally, find (-ing), fine (-er, -est), finger, finger-nail, finish (-ed, -ing), fire, fireplace, first, fish (n.), fish (-ed, -ing), fist, fit (a.), fit (v.), five, fix (n)., fix (-ed, -ing), flag, flapping, flat, flat-iron, flew, floor, flour, flower, fly (n.), fly (-ing), fold (-ed, -ing), folks, follow (-ed, -ing), food, fool (-ed, -ing), foolish, foot, foot (of bed), football, footstool, for, forehead, forenoon, forever, forget, forgot, forgotten, fork, forty, found, four, Fourth of July, fresh, freeze (-ing), freight, Friday, friend, fright, fringe, frisky, frog, front, frontdoor, frost (n.), frost (-ing), frosting (n.), frosty, froze, frozen, fruit, fry (-ed, -ing), frying-pan, fudge, fuel, full (-er, -est), fun, funeral, funny (-er, -est), " funnies," fur, furniture, fuss (n.), fuss (-ed, -ing), fussy, fuzzy.

Game, garden, garter, " garter " (-ing, -ed), gas, gasoline, gate, gather (-ed, -ing), gelatine, gems, gentle, gentleman, German, get (-ing), " get-

up," giggle (-ed, -ing), giggler, girl, give (-ing), glad, glass, glasses (spectacles), glimpse, gloomy, gloves, glue (n.), glue (-ed, -ing), go (-ing), "gobble," gobble (-ed, -ing), God, gold, gone, good, good-bye, good-morning, good-night, goody, goose, got, grab (-ed, -ing), gracious, graham, grand, grandfather, Grandma, grandmother, Grandpa, grape, grass, grasshopper, grate, grater, gravy, gray, grease (n.), grease (-ed, -ing), greasy, great, green, griddle, grin (-ing), groceries, grocery-man, grocery-store, ground, grow (-ed, -ing), grunt (-ed, -ing), guess, guinea pig, gum, gun, gunny sack.

Ha ha, had, hadn't, hail (n.), hail (-ing), hair, hair-brush, hair-pin, hairy, half, hall, Hallow e'en, ham, hammer (n.), hammer (-ed, -ing), hand (n.), hand (-ed), handful, handkerchief, handle (n.), handle (-ing), handy, hang (-ing), happen, happy, hard (a.), hard (adv.), hardly, harm, harness (n.), harness (-ed, -ing), has, hasn't, hat, hate, hatchet, hatpin, haul (-ing), have haven't, hay, hazelnut, he, head, headache, hear, heard, hearse, heart, heat (n.), heat (-ing), heaven, heavy, hedge, heel, held, hello, "helloed," held (-ed, -ing), hen, her (-s), here, herself, hey, hickory nuts, hid, hide (-ing), high (-er, -est), highchair, hill, hilly, him, himself, hinge, hippety-hop (n.), hippety-hop (-ed, -ing), hit (-ing), hitch-up (-ed, -ing), hoe (n.), hoe (-ed, -ing), hog, hold (-ing), hole, holler (-ed, -ing), home, honest, honey, honeybee, honeysuckle, hood, hook (n.), hook (-ed, -ing), hope (-ing), horn, horrible, horse, horseback, horseradish, horseshoe, horsie, hose, hospital, hot, hotwater-bottle, hound, house, how, "how de do," howl (-ed, -ing), hug (n.), hug (-ed, -ing), hundred, hung, hungry, hunt (-ed, -ing), hurry (-ed, -ing), hurt (-ing), "hurted," husband, hush, hustle (n.), hustle (-ed, -ing).

I, ice, icecream, icicle, icy, idea, if, imagine, in (adv.), in (prep.), incubator, indeed, Indian, ink, inkbottle, inky, inside, instead, intend, interurban, into, Iowa, Irish potato, iron (n.), iron (-ed, -ing), ironing (n.), ironing-board, iron-holder, is, isn't, it, itches, its, itself.

Jabber (-ed, -ing), jacket, Jack Frost, jack o'lantern, jail, jam, January, jar (n.), jar (-ed, -ing), jaw, jelly, jellyroll, jerk, (n.), jerk (-ed, -ing), jiggle (-ed, -ing), jingle (-ed, -ing), job, Johnson St., joke (n.), joke (-ing), jug, juice, juicy, July, jump (n.), jump (-ed, -ing), jumper, junk, just.

Keep (-ing), kept, kernel, kettle, key, keyhole, Kewpie, kick (n.), kick (-ed, -ing), kids, kill (-ed, -ing), kimona, kind (n.), kind (a.), kindle (-ed, -ing), kindling (n.), kiss (n.), kiss (-ed, -ing), kitchen, kitten, kitty, kitty-hood, knead (-ing), knee, kneel (-ing), knew, knife, knock (n.), knock (-ed, -ing), knot (n.), knot (-ed, -ing), know (-ed, -ing), knowledge, kodak.

Lace (n)., lace (-ed, -ing), lack, ladder, lady, lake, lamb, lame, lamp, land, "land sakes," lantern, lap, lapful, lard, large (-er, -est), last (adv.), last (a.), last (-ed, -ing), latch (n.), latch (-ed, -ing), late (-er, -est), lately, lather, laugh (n.), laugh (-ed, -ing), laundry-bag, lawn, lay (-ed, -ing), lavatory, lazy, lead (-ing), lead-pencil, leaf, leak (n.), leak (-ed, -ing), leaky, lean (a.), lean (-ed, -ing), learn (-ed, -ing), leather, leave (-ing), leaves, led, left (a.), left (v.), leg, leggings, lemon, lemonade, lend, lesson, let (-ing), let's, letter, letters (of alphabet), lettuce, level, liable, library, lick (-ed, -ing), lid, lie (-ing), lie (n.), lift (-ed, -ing), light (n.), light (-ing) light (a.) (weight), light (a.) (color), like (n.), like (a.), like (adv.), like (-ed), likely, lilac, limb, lily, limber, line, lining, lion, lip, list, listen (-ed, -ing), lit, litter (n.), litter (-ed), little (n.), little (a.), little (adv.), lively, live (-ed, ing), load (n.), load (-ed, -ing), loaf, loaves, lock (-ed, -ing), locket, London, lonesome, long (a.) (-er, -est), long (adv.) (-er, -est), look (-ed, -ing), looking-glass, loose (a.), loose (v.), lose (-ing), lost (v.), lost (a.), lot, loud (-er, -est), lounge, love (-ing), lovely, low (a.), low (adv.), luck, lucky, lump, lunch.

Macaroni, machine, machinery, mad, made, Madison, magazine, mail

(n.), mail (-ed, -ing), mailbox, mail-carrier, mail-man, make (-ing), Mamma, man, manage, manners, many (n.), many (a.), maple-sugar, marble, March, march (-ing), mark (n.), mark (-ed, -ing), marmalade, marshmallow, mash (-ed, -ing), match, matchbox, matter, mattress, may, maybe, me, meal, mean (a.), mean (v.), meant, measles, measure (n.), measure (-ed, -ing), meat, meat-market, meddle (-ing), medicine, meet, melon, melt (-ed, -ing), mend (-ed, -ing), mention, " meow," mercy, merry-go-round, mess, met, Methodist, mice, middle, might (n.), might (v.), mighty, mile, milk (n.), milk (-ed, -ing), milk-bottle, milk-man, milk-ticket, mill, mince-pie, mind (n.), mind (ed), " mind-you," mine, minute, mischief, Miss, mistake, mistaken, misunderstand, misunderstood, mitten, mix (-ed, -ing), mix-up, molasses, moment, Monday, money, monkey, monster, " moo," moon, mop (n.), mop (-ed, -ing), more (n.), more (a.), more (adv.), morning, most (n.), most (a.), mosquito, Mother, mother-hen, motor-car, motor-cycle, mountain, mouse, mouse-trap. mouth, mouthful, move (-ed, -ing), Mr., Mrs., Mr. Cold, Mr. Splatter, Mr. Warm, Mr. Wind, mucilage, mud, muddle, muddy, muff, muffin, mule, mush, music, muss, muss-up, must, mustn't, my, myself.

" Na," nail (n.), nail (-ed, -ing), name, nap (n.), napping (v.), napkin, narrow, nasty, naughty, near (adv.), near (prep.), nearly, neck, necklace, necktie, need, needle, (n.) " needle " (v.), needn't, negro, neighbor, neighborhood, neither, nervous, nest, never, new (-er, -est), news, newsboy, newspaper, next, nice, nickel, night, night-dress, night-gown, " nightie," nine, no, nobody, noise, noisy, No Mam, none, nonsense, noon, nor, North, nose, No Sir, not, note, notebook, nothing, notice (-ed), notion, now, nozzle, nuisance, number, nut, nut-cracker, nut-pick, nutshell.

Oatmeal, occasionally, o'clock, October, of, off, office, often, Oh, "Oh land," "Oh sugar," old (-er, -est), oil, oil (-ed, -ing), oil-can, oil-cloth, olive, olive oil, on (adv.), on (prep.), once, one (n.), one (a.), onion, onion sets, only, open (a.), open (-ed, -ing), or, orange, orange-juice, orchard, order, organ, ornament, other, " ouch," ought, oughtn't, our, ours, ourselves, out, outdoors, oven, over (adv.), over (prep.), overalls, overcoat, own, " ow," oysters.

Pack (-ed, -ing), package, paddie, paddle (-ed, -ing), paddling (n.), pail, pailful, pain, paint (n.), paint (-ed, -ing), paint-brush, pair, pan, pancake, pansy, panties, pantry, pants, Papa, paper (n.), paper (-ed, -ing), paper-boy, paper-dolls, parade, paragraph, parasol, Parcel Post, pardon, pare (-ed, -ing), park, parlor, parrot, part (n.), part (v.), particular, partly, party, pass (-ed, -ing), past (adv.), past (prep.), paste (n.), paste (-ed, -ing), pasteboard, pasture, pat (n.), pat (-ed, -ing), patch (n.), patch (-ed, -ing), path, patter, pattern, patty-cake, pay (-ed, -ing), pavement, peach, Pearl St., peanut, peas, peculiar, peddle, peddler, peek (-ed, -ing), peek-a-boo, peel (-ed, -ing), peeling (n.), peep (-ed, -ing), peep-peep, pen, pensil, penny, people, pepper, peppermint, perfect, perform (-ed, -ing), performance, person, pester (-ed, -ing), pet (n.), pet (-ed, -ing), petticoat, phenolax, physic, piano, piano stool, pick (-ed, -ing), pickle, picnic, picture, picture-book, picture-hook, picture-show, pie, piece, pie-crust, pieplant, pig, pigeon, piggish, pigpen, pile (n.), pile (-ed, -ing), pillow, pillowcase, pimple, pin (n.), pin (-ed, -ing), pinch (n.), pinch (-ed, -ing), pincushion, pink, pipe, pitcher, pity, place, plain (a.), plain (adv.), plan, plane, plant (n.), plant (-ed, -ing), plaster, plate, plateful, platter, play (n.), play (a.), play (-ed, -ing), play (-ed, ing-) (the piano), playhouse, playmate, plaything, pleasant, please, plenty, plum, poached eggs, pocket, pocketbook, pod, point (n.), point (-ed, -ing), poison, poke (-ed, -ing), poker, pole, policeman, pony, poodle dog, poor, pop (-ed, -ing), popcorn, porch, pork-chops, post, postage stamps, post office, postal card, pot, potato, potato masher, pound (n.), pound (-ed, -ing), pounder, pour (-ed, -ing), pout (-ed, -ing), powder (n.), powder

(-ed, -ing), powerful, powerfully, practice (-ing), pray (-ed, -ing), prayer prayer book, "prayers" (v.), preach (-ed, -ing), preacher, precious, present (for the), present (gift), preserves, press (-ed, -ing), pressing (n.), presume, pretend (-ed, -ing), pretty (a.), pretty (adv.), price, prick (-ed, -ing), prickly, priest, prince, proceed, proceeding (n.), promise (n.), promise (-ed, -ing), prop (-ed, -ing), proper, prunes, Pshaw, pudding, puddle, puff (n.), puff (-ed, -ing), pull (-ed, -ing), pump (n.), pump (-ed, -ing), pumpkin, punch (n.), punch (-ed, -ing), punish (-ed, -ing), pup, puppy, pure, purpose, purr (-ed, -ing), purse, push (n.), push (-ed, -ing), pussy, pussy willow, put (-ing), putty (n.), putty (-ing).

"Quack," quarrel (n.), quarrel (-ed, -ing), queen, queer, question, quick (-er, -est), quiet, quilt, quit, quite.

Rabbit, race, racket, radish, rag, ragged, rail, railroad, rain (n.), rain (-ed, -ing), rainbow, raindrop, rainy, raise (-ed, -ing), raisin, rake (n.), rake (-ed, -ing), ran, rang, range, rap (-ed, -ing), rascal, raspberry, rat, rather, rattle (n.), rattle (-ed, -ing), ravelling, raw, razor, razor-strop, reach (-ed, -ing), read (-ing), read (past tense), reader, reading (n.), ready, real, realize, really (a.), really (adv.), reason, reckon, red, refrigerator, regular, remember (-ed, -ing), rent (n.), rent (v.), reservoir, rest (n.) (take a rest), rest (remainder), rest (-ed, -ing), restaurant, rheumatism, rhubarb, rib, ribbon, rice, rice pudding, rich, rid, ride (n.), ride (-ing), ridiculous, right (a.), right (adv.), "rightwards," ring (n.), ring (-ing), rinse (-ed, -ing), rip (-ed, -ing), ripe, risk, river, road, roar (-ed, -ing), roast (-ed, -ing), roast-beef, rob (-ed, -ing), robber, robe, robin, rock (n.), rock (-ed, -ing), rock-a-bye, rocking-chair, rod, rode, roll (n.), roll (-ed, -ing), rolling-pin, roly-poly, Roman-meal, romp (-ed, -ing), rompers, roof, room, roost, rooster, root, rope, rose, rosebush, rosy, rotten, rough (a.), rough (adv.), round (n.), round (a.), roustabout, row , row, rub (-ed, -ing), rubber, rubbers, rubbish, rubbish-pile, ruffle, rug, ruin (-ed, -ing), ruler, run (n.), run (-ing), runaway (n.), runaway (a.), rung, runner, runt, rush (n.), rush (-ed, -ing), rust, rustle, rusty.

Sack, sackful, sad, saddle, safe, safetypin, sage, said, sail (-ed, -ing), sailboat, saleratus, salmon, salt (n.), salt (-ed, -ing), salts, salt-cellar, salty, salve, Salvation Army, same, sample, sand, sandman, sandwich, sandy, sandy-andy, Santa Claus, sash, sat, satchel, satin, satisfy (-ed, -ing), satisfactory, Saturday, sauce, saucer, saucy, sauer kraut, sausage, save (-ed, -ing), saw (n.), saw (-ed, -ing), saw (past intrans.), sawdust, say (-ing), scalawag, scab, scales, scalloped, scar, scarce (n.), scare (-ed, -ing), scarce, scarcely, scarf, scheme, schemer, school, school-house, schoolteacher, scissors, scold (-ed, -ing), scoop (-ed, -ing), scorch (-ed, -ing), scowl (-ed, -ing), scrap, scrap-book, scrape (-ed, -ing), scratch (n.), scratch (-ed, -ing), scream (-ed, -ing), screech (-ed, -ing), screen, screendoor, screw (n.), screw (-ed, -ing), screw-driver, scrub (n.), scrub (-ed, -ing), scrubbrush, scrumptious, seam, seat (n.), seat (v.), second (a.), second (n.), secret, secretary, see, see (understand), seed, seek, seem (-ed), seesaw seldom, selfish, sell (-ing), send (-ing), senna, sense, sensible, sent, separate (a.), separate (-ed, -ing), September, sermon, served, set (n.), set (v.), setting hen, settle (-ed, -ing), seven, several, sew (-ed, -ing), sewer (one sewing), sewer (drain), sewer-pipe, sewing (n.), sewing-machine, shade, shadow, shady, shake (n.), shake (-ing), shaking (n.), shaky, shall, shame, shampoo (n.), shampoo (-ed, -ing), shape, share, sharp, sharpen (-ed, ing), shave (-ed, -ing), shaving-brush, shawl, she, shears, shed, sheep, sheet, shelf, shell (n.), shell (-ed, -ing), shelves, shine (-ing), shingle, shiny, shirt, shoe, shoe-blacking, shoe-box, shoe-string, shook, shoot (-ing), shooter, shop (-ing), short (-er, -est), shot, should, shoulder, shoulder-roast, shouldn't, shove (n.), shove (-ed, -ing), shovel (n.), shovel (-ed, -ing), show (n.), show (-ed, -ing), shower, showery, "shucks," shuffle, shut (a.), shut (-ing), sick, sickly, side, sidewalk, sideways, sift (-ed, -ing),

sifter, sigh, sight, sign, silk, silky, silly, simply, silver, silver polish, silverware, since, sing (-ing), singing (n.), single, sink, sinner, sip (-ed, -ing), sir, sister, Sister (Catholic), sit (-ing), six, size, "skedaddle," "skidoo," skim, skin, skinny, skip (-ed, -ing), skirt, sky, slam (n.), slam (-ed, -ing), slap (n.), slap (-ed, -ing), sled, sleep (n.), sleep (-ing), sleeper, sleepy, sleepy-head, sleeve, sleigh-ride, sleigh-riding, slept, slice, slick, slid, slide (-ing), slingshot, slip (-ed, -ing), slipper, slippery, sliver, slobber (-ed, -ing), slop (-ed, -ing), sloppy, slow (a.), (-er, -est) slow (adv.), (-er, -est) smack (n.), smack (-ed, -ing), small (-er, -est), smart (a.), smart (-ed, -ing), smarty, smash (-ed, -ing), smell (n.), smell (-ed, -ing), smeller, smile (n.), smile (-ed, -ing), smoke (n.), smoke (-ed, -ing), smoky, smooth (-er, -est), snap (n.), snap (-ed, -ing), snarl, snatch (-ed, -ing), sneeze (n.), sneeze (-ed, -ing), snooze (n.), snooze (-ing), snoozer, snore (-ed, -ing), snow (n.), snow (-ed, -ing), snowball (n.), snowball (-ing), snowbank, snowdrift, snowman, snowy, snuff (-ed, -ing), so (adv.), so (conj.), soak (-ed, -ing), soap (n.), soap (-ed, -ing), soapdish, soapy, sob (-ed, -ing), sock, soda, sodawater, soft (-er, -est), soil (-ed, -ing), sold, sole, solid, somebody, somersault, something, sometimes, someway, somewhere, son, song, songbook, soon, soot, sooty, sore, (n.), sore (a.), sorry, sorts, sound (n.), sound (-ed), soup, soupbone, South, sour, sour milk, space, spank, (n.) spank (-ed, -ing), spare, sparkle (-ed, -ing), sparks, sparrow, spat, speak, spear (n.), spear (-ed, -ing), speck, spell (-ed, -ing), spend, spider, spiderweb, spill (-ed, -ing), spilt, spit (n.), spit (-ing), spite, splash (-ed, -ing), splasher, splatter (n.), splatter (-ing), splendid, split (-ing), spoil (-ed, -ing), spool, spoon, spoonful, sport, spot, spotted, spread (n.), spread (-ing), spring, sprinkle (-ed, -ing), sprinkler, sprint (-ed, -ing), spry, squall (-ed, -ing), square, squash, squawk (-ed, -ing), squawker, squeak, squeal (-ed, -ing), squeeze (n.), squeeze (-ed, -ing), squib (-ed, -ing), squint (-ing), squirrel, stack, stain (n.), stain (-ed, -ing), stairs, stalk, stamp, stand (-ing), star, starch (n.), starch (-ed, -ing), stare (-ed, -ing), start (n.), start (-ed, -ing), starve (-ed, -ing), state (of affairs), station, stay (n.), stay (-ed, -ing), steady, steak, steal (-ing), steam, steaming, steam-cars, steep, steeple, stem, step (n.), step (-ed, -ing), stew, stick (n.), stick (-ing), stick candy, sticker, stickpin, sticky, stiff, stile, still (a.), still (adv.), sting, stinger, stir (-ed, -ing), stitch (n.), stitch (-ed, -ing), stocking, stocking-cap, stole, stomach, stone, stood, stool, stoop (-ed, -ing), stop (-ed, -ing), store, storeroom, storm, stormy, story, storybook, stove, stovepipe, straight (a.), straight (adv.), straighten (-ed, -ing), strain (-ed, -ing), strainer, strange, strap, straw, strawberry, stream, street, streetcar, stretch (-ed, -ing), strike, striking, string, strip (n.), strip (-ed, -ing), stripe, striped, strong, stuck, study (n.), study (-ed, -ing), studying (n.), stuff, stumble (-ed), stung, stunt, style, stylish, susbtantial, such, suck (-ed, -ing), sucker, sudden, suds, suffer, sufficient, sugar, sugarbowl, sugarcan, suit (n.), suit (v.), suitcase, sulphur, sultry, summer, sun, sunburned, Sunday, Sunday School, sung, sunlight, sunny, sunshine, sunshiny, supper, supporters, suppose (-ed, -ing), sure, surely, surprise (n.), surprise (-ed, -ing), suspenders, swallow (-ed, -ing), sweat (-ing), sweater, sweaty, sweep (-ing), sweeper, sweet, sweet potato, sweet peas, sweetheart, swell (-ed, -ing), swept, swift, "swipe," swing (n.), swing (-ing), swing-board, swing-rope, switch (n.), switch (-ed, -ing), syrup.

Tabby, table, tablecloth, tablespoon, tack, tackle (-ed, -ing), tail, take (ing), taken, tale, talk (n.), talk (-ed, -ing), tall (-er, -est), tame, tan, tangle (n.), tangle (-ed), tapioca, tar-soap, tart, task, tassel, taste (n.), taste (-ed, -ing), taught, tea, tea-ball, teacup, teach, teacher, teakettle, tea-party, teapot, tear (n.), tear (-ing), tears, tease (n.), tease (-ed, -ing), teaspoon, Teddy-bear, "teensy-weensy," teeter-totter, teeth, telephone (n.), telephone (-ed, -ing), telescope, tell (-ing), temper, ten, tend (-ed,

-ing), tennis, tennis racket, tent, terrible, terribly, than, thank (-ed), thankful, Thanksgiving, that (a.), that (pron.), thawing, the, theatre, them, then, there, thermometer, these (a.), these (pron.), thesis, they, thick (-er), thimble, thin (-ed, -ing), things, think (-ing), third, thirsty, thirteen, thirty, this (a.), this (pron.), those, though, thought, thread (n.), thread (-ing), thread picker, three, threw, throat, through (adv.), through (prep.), throw (-ing), thrower, throw-up, thumb, thunder (n.), thunder (-ed, -ing), Thursday, ticket, ticking, tickle (-ed, -ing), tick-tock, tie (n.), tie (-ed, -ing), tiger, tight, tighten, tights, till, time, tin, tincup, ting-a-ling, tiny, tip (n.), tip (-ed, -ing), tiptoe, tire, tired, to, toad, toast (n.), toast (-ed, -ing), today, toddle (-ed, -ing), toe, toenail, together, toilet, told, tomato, tomboy, tom-cat, tomorrow, tongue, tonic, tonight, too, took, tools, toot, tooth, toothbrush, toothpick, "too too car," top, tore, torment (-ed, -ing), torn, toss (-ed, -ing), touch (n.), touch (-ed, -ing), tough, towards, towel, town, toy, track, trade (n.), trade (-ed, -ing), train (n.), train (-ed, -ing), tramp, trap, trash, treat (n.), treat (-ed, -ing), tree, trick, tricycle, trifle, trim, trot (-ed, -ing), trotting harness, trouble, truck, true, truly, trunk, trunk (of elephant), truth, try (-ed, -ing), tub, tuck, (-ed, -ing), Tuesday, tumble (n.), tumble (-ed, -ing), tumbler, tune, turkey, "Turkey Day," turn (-ed, -ing), turns, tussle, "tweet," twelve, twenty, twenty-fourth, twice, twin, twist (-ed, -ing), two, typewrite (-ing), typewriter.

Ugly, umbrella, unable, unbutton (-ed, -ing), uncle, Uncle Sam, "unclose," uncover (-ed, ing-), under (adv.), under (prep.), underclothes, underneath, underside, underskirt, understand, underwear, undo (-ing), undone, undress (-ed, -ing), "unhanged," unhappy, unhitch (-ed, -ing), unionsuit, University, unkind, unlace (-ed, -ing), unlatch (-ed, -ing), unless, unload (-ed, -ing), unlock (-ed, -ing), unloose (-ed, -ing), unpin (-ed, -ing), untangle (-ed, -ing), untie (-ed, -ing), until, unwind (-ing), unwound, up (adv.), up (prep.), uphill, upper, upside down, upstairs, urge, use (n.), use (-ed, -ing), used to, useless, usually.

Vaccinate (-ed), valentine, variety, varnish (n.), varnish (-ed, -ing), vase, vaseline, vegetable, veil, velvet, verse, very, vessel, vest, victuals, vine, vinegar, visit (n.), visit (-ed, -ing), visitor, voice, vomit (-ed, -ing).

Wabbly, wad (n.), wad (-ed, -ing), wade (-ed, -ing), wafers, wag (-ed, -ing), wait (n.), wait (-ed, -ing), wake (-ed, -ing), "waked-up," walk (n.), walk (-ed, -ing), walker, wall, wallpaper, walnut, want (-ed, -ing), war, warm (-er, -est), warm (-ed, -ing), wart, was, wash (-ed, -ing), wash-basin, washboard, washing (n.), washrag, wasn't, wasp, waste (n.), waste (-ed, -ing), watch (n.), watch (-ed, -ing), water (n.), water (-ed, -ing), watermelon, water-pitcher, wave (-ed, -ing), wax, way, we, wear (-ing), weary, weather, Wednesday, "wee-wee," weed (n.), weed (-ed, -ing), weedy, week, weeping, weigh (-ed, -ing), welcome, well (n.), well (a.), well (adv.), well (interj.), went, were, wet (a.), wet (-ed, -ing), whack (n.), whack (-ed), what, whatever, wheat, "whee," wheel (n.), wheel (-ed, -ing), wheelbarrow, when, whenever, whereabouts, where, wherever, whether, whetstone, whew, which, whichever, while, whine (-ed, -ing), whiner, whip (n.), whip (-ed, -ing), whirl (-ed, -ing), whiskbroom, whiskers, whisper (n.), whisper (-ed, -ing), whistle (n.), whistle (-ed, -ing), whistling (n.), white (-er, -est), whitewash (n.), whitewash (-ed, -ing), whittle (-ed, -ing), who, whoa, whoever, whole, whoop (-ed, -ing), whooping-cough, whopper, whose, why, wick, wicked, wide (-er, -est), wife, wiggle (-ed, -ing), wiggler, wild, will, willing, wind (n.), wind (-ing), windmill, window, windy (-er), wine, wing, wink (-ed, -ing), winter, wintery, wipe (-ed, -ing), wiping-towel, wire, Wisconsin, wish (n.), wish (-ed, -ing), wishbone, with, withered, without, wolf, woman, women, wonder (-ed, -ing), wonderful, won't, wood, woodshed, woodpile, woods, wool, woolly, word, wore, work (n.), work (-ed, -ing), worker, world,

worm, wormhole, wormy, worry, worse, worst, worth, would, wouldn't, wound, " wow," wrap (-ed, -ing), wrapper, wraps, wreck, wrestle (n.), wrestle (-ed, -ing), wring (-ing), wringer, wrinkle (n.), wrinkle (-ed, -ing), wrinkly, wrist, write (-ing), writer, writing (n.), written, wrong (a.), wrong (adv.), " wrongwards," wrote, wrung.

Yard, yarn, year, yeast, yell (n.), yell (-ed, -ing), yellow, yes, Yes Mam, yesterday, yet, yolk, young (-er, -est), you, your, yours, yourself.

Zinc.

Note.—Names of 105 persons and 15 animals are omitted.

WHY I AM A SPINSTER

By a Teacher

When I was a young child, everyone got married. To be sure, that was a long time ago; but it is nevertheless true that everyone, so far as my small observation went, got married. All the uncles and aunts, and there were many on both sides of the house,—all, without a single exception, went or were led to the altar; indeed, some few, who were so unfortunate as to lose their partners by death, went, or were led thither a second time, just as soon as the conventionalities of society would allow them to repair the loss. So it was natural that my sister and I should regard marriage as the natural lot of all, as we did. When small, we played house under the trees, and derived untold pleasure from the broken bits of china which served for dishes, from which our large family of dolls was fed. Looking back now to this remote period, I cannot see that the husband played any part. It was the housekeeping and the care of the children that engrossed our attention. To prepare the meals from bits of cake or bread, to pretend that one or more dolls were ill, was an unfailing interest, and when the girl next door, the only playmate allowed outside of the family, introduced "Stoolie Johnny" as an addition to our little circle, delight was unbounded; though, to be perfectly truthful, I think it was the tiny spot of hardened glue upon the under surface of this small wooden stool that won its instant recognition in society; that and the appealing way in which the four legs stuck out when it was placed on end. To our childish fancy, it seemed asking to be held, and it was seldom without a nurse. To be sure, the legs had an uncomfortable habit of striking one in the eye, if one turned suddenly, but this was a small matter. As for the spot of glue, it was, in turn, a vaccination mark, an indication of scarlet fever, measles, or small-pox, though this latter malady was received on faith, as it were, from our neighbor who claimed to have once passed a house bearing the placard of this dread disease. Up to this time, we had been carefully excluded from the society of boys, our baby brother being still young enough to be classed as a girl. Our enlargement of view came in the shape of a party, given by

my father's partner in honor of his little Arabella's birthday. I, as eldest daughter of the house, was invited. I had never seen my hostess or her home, but mother's preparations indicated a high festival, and interest grew accordingly. The evening before this important function, my flaxen poll was well washed, and when nearly dry, divided off into little squares, each of which was rolled and twisted on that instrument of torture known to a prehistoric age as curl paper. Hitherto, this ceremony had been reserved for Saturday evening, which probably accounted for my attaching a religious significance to the occasion. My grandmother, as high priestess at these times, did her work well, and even now, I can recall with a shudder, the restless Saturday nights spent in a forest of twisted papers, and the Sunday mornings, when slipping early out of bed, I used to examine with curious satisfaction, the pink scalp rendered bare in tiny strips, which a childish fancy likened unto streets, and then shut my eyes tightly, to feel the strain upon the poor little front hairs more acutely. But to resume, the present occasion was no exception from its fellows, and after a further reminder of Saturday night, in the form of a warm bath, I retired to spend the usual restless hours. As the books say, "I awoke in the morning unrefreshed," and being set apart to high office, took little notice of usual occupations, nor was there much time. My hostess lived at the other end of the town, and it was my father's pleasure to leave me there upon his return to business, after the noonday meal. The distance was considerable. This and his probable consideration saved me from the mortification of being too early, for which I am even now thankful. At the proper time, I was again washed, and arrayed in my best frock, a new crimson poplin that scratched tender skin unmercifully, the curl papers being left in until the last possible moment. The limitations of sex being thus duly acknowledged, we departed for the unknown Mecca. It was a pretty house surrounded by vines, with a lovely veranda in front, like our old home in New York. I loved it at once. The hostess was not visible, but her mother was more than kind, and I was soon ushered into the parlor where the "party" was in full swing. This was my first introduction to the genus boy. He stood, in what seemed to me large numbers, behind chairs ranged in a long line down the center of the room. At this moment, they were playing the classic game of "clap in—clap out." I was sent to the hall, whence —I soon heard my name called. Choosing the wrong seat, I was promptly ejected by the young fiend back of me, who with a deft movement of the chair, sent me sprawling to the floor, amid howls of delight and clappings of hands from the

assembled multitude. I found, of course, that this rough treatment was all in fun, and that one was expected to be agile enough to escape it. But this knowledge came later, and being much frightened and a little hurt, I retired to the window seat, whence I soon learned the ethics of the game, without experiencing any desire to return to it, however.

The next venture was something called a "teeter;" a number of barrels lay on their sides in the garden, and over each a long board was placed. A boy and a girl immediately took possession of each, but out of consideration for my battered condition and general incompetence, a long, lank girl of twelve was asked to be my partner. Mrs. Brown superintended us herself, carefully putting me on my end of the board. Margaret, as she was called, came down with an awful thud, at the first to go off, and I shot into the air like thistle down, striking my unlucky nose on the sharp edge of the barrel in the descent. My nose wouldn't stop bleeding for a long while, so I spent the remaining time before supper in miserable seclusion, only emerging at Mrs. Brown's suggestion, to be escorted by a boy to the table. A severe headache causing this foreign custom to appear trivial, I was enabled to take my partner's arm with composure, and Mrs. Brown smiled kindly, under the evident impression that I was improving. Father exhibited much concern upon seeing the disfigured nose, which he feared was broken; and the family showed real grief upon my return. I have since learned that this feature was the only point of resemblance to either parent which I possessed. It was, therefore, considered somewhat in the light of an heirloom, like old china or a silver tea pot. But grandmother, who was a strict churchwoman of the old school took occasion to point a moral. Long before, she had told me never to play at "see-saw," and now this horrible game was the same, it seemed, a fact I now recalled, though it had not been thought of in the confusion attending my debut. But so it was, and the devout kinswoman doubted not that the swollen nose was a direct punishment for disobedience. "I had," she asserted, "behaved in an unseemly manner," and brought disgrace upon my "ancestors." This last clause was quite familiar. We heard it often, and failing to grasp its full meaning, applied it variously. Just now it represented a very sore nose, and I was as sorry as any one could wish.

The next public appearance was a school exhibition. It occurred on a raw March morning. I remember the earliest breakfast I had ever eaten, and the walk down the windy street. The bare school room with its little wooden seats painted light green struck me, even then, as comfortless, a

feeling not yet entirely outgrown; and I can still smell the newly scrubbed floor. Grandmother, herself the product of an "English school for young ladies," sought to cultivate our manners after her own pattern, and in accordance with this plan, Elizabeth and I had been taught an elaborate curtesy. Before leaving home I had been reminded of this ceremony, and it kept coming to mind all the way down the street, at intervals, and even after we had entered the building, and were on our way down the narrow aisle. At the end of the room, upon a sort of raised platform, sat a man with very black hair and swarthy skin.

"That's the principal," said Helen, in a whisper. If she had said "That's the executioner," it would have meant exactly the same to me. He looked very black, and seemed to be paring his nails with a pen knife. The affection and respect always shown my father, coupled with my own natural stupidity, are perhaps responsible for the fact that I always looked upon man as a superior being, a state of mind to which I even now revert occasionally. This, and the injunction raised before leaving home, are probably responsible for the curtesy, as I took my seat beside Helen.

"Catholic!" snickered a boy across the aisle.

"I'm not!" I retorted, hotly, though I had not the slightest idea what he meant.

"Hush, you musn't talk," said my hostess, while the man on the platform tapped a bell.

"Not talk!" How absurd! But I held my tongue bravely, amid the amused gigglings of my neighbors.

Later experience has led to the conclusion that some sort of examination in geography had been planned for this morning, which explained the presence of the principal, but I was untrammeled by any such knowledge, and sat up, keenly interested in everything going on. The examination, if such it was, proceeded somewhat in this fashion:—

"What is a river?" An unintelligible murmur from the pupil addressed.

"Next!"

"Yum-yum-yum," from the other side of the room.

"Wrong! Who can tell me what a river is?" The awful black eyes seemed to be looking at me, and with an egotism born of terror, I shouted,

"I can't."

"Hush, you musn't talk!" said my hostess in real distress, while all eyes centered on my corner.

"How does it run?" pursued the tormentor on the platform.

"Run indeed!" thought I, "our old river at home never did such a thing!"

"Up or down?" continued the voice.

A girl stood up and said something; how I envied her poise, evidently she was not afraid. Another stood, but not with such good results; next a boy answered some remark, then—

"East or West?" came again.

"Yes, sir," I shouted, in desperation. A scene of merriment followed.

"He wasn't asking you," said poor Helen, while a girl behind us administered a sharp blow on my back, and a boy opposite made an awful face.

"Nobody spoke to you," vouchsafed another, evidently a friend of my hostess.

"He did too," retorted I, indignantly. "He's looking at me all the time!" which was probably true.

"Who?" whispered some one near me.

"That man up there."

I grieve to say that this seemed to break up the exercise. Shortly after, a young woman whom I had considered of no importance, but who was evidently the regular teacher, approached my desk, and I was led out and dressed for the street. I remember feeling very tired, and thinking that I would never go to a place like that again. Thus ended my first morning in school.

For a long time, after this, I seemed to be regarded as an undesirable guest. At least, nobody invited me to any function, and we led our peaceful life in the little garden totally undisturbed until one afternoon, when a lady approached the front porch. The next door neighbor seemed quite impressed.

"You don't know who that is," said she.

"Who?" asked Lizbeth.

"The lady from the Mission Sunday School, and she's going to ask your mother for you. She was to our house last week."

Sure enough, in a few moments old Ellen beckoned to us, and leaving our visitor standing in the pathway, we hurried in.

"You and Lizbeth are always so untidy!" ejaculated the much tried maid, as she smoothed my hair hastily." "Alfred's the boy to keep clean!"

It's a fact that our young brother never looked soiled. "And him a boy!" as Ellen would say admiringly. I have thought since that he was too plump to be very active, but be this as it may, he stood there clean and smiling, a marked contrast to his restless, homely sisters.

"What a beautiful boy!" was the visitor's salutation, as we entered the parlor. We were used to this. Almost every stranger made this remark, sometimes adding,

"What a pity the little girls are not so pretty as the boy." But on this occasion, we were spared this compliment.

Alfred gave his usual seraphic smile which resulted in an invitation to sit on the teacher's lap, a courtesy he accepted with his usual composure, while Lizbeth and I stood unnoticed near the door, our customary experience. My sister generally made a face at the visitor when this stage in the proceedings was reached. We always told each other we did not care; Lizbeth often adding that she was glad she was homely. It is probable, however, that this was not quite true, as upon one occasion she fell upon Alfred after the visitor's departure, and bit him sharply on the thumb. But these reversions to savagery are common to us all.

The "Mission Lady" was quite smiling and pretty. She asked if I could read.

"Oh yes," said my mother, "show Miss Ketchum your Natural Philosophy, Mary." As a scientist's daughter, I began the study of physics at six. The book was brought with a nonchalant air. The teacher looked at me as a sort of unpleasant curiosity, as least so I felt, and so Lizbeth said later. We felt intuitively that she did not care for plain little girls—and this in spite of our youth.

Mother parried the invitation. Father was in New York, and she knew he was opposed to indiscriminate teaching. Then, too, the school would undoubtedly have its quota of boys, and we were segregated from boys on principle.

How it was managed we never knew, but the diplomat left with a promise that we should attend next Sunday.

"And be sure to bring little brother," was her parting injunction to me.

"Does she want you?" called my neighbor, from her post on the gate.

"She said we must come Sunday."

"Will your mother let you?"

"I don't know."

"May be we don't want to," from Lizbeth.

"I'll call for you 'cause you don't know the way." The school was less than a block from us, and in plain sight. "My new hat's come home. I'll wear it Sunday!" as though she was conferring a favor.

Sunday was a day of excitement. Long before the time for starting, we were ready to the last thread. Lizbeth wore the pink satin bonnet the girls all envied, and Alfred his new plaid kilt with brass buttons. In spite of temporary aberrations, we were both very proud of his appearance, and his beaver hat with its standing feathers was certainly regarded as a family treasure.

"Hold your brother by the hand, girls," was the parting injunction, as we marched down the street three abreast, our gaudy neighbor leading the way.

The building was large and square, painted brown, with many large windows, and a long white board over the door, with the legend, "Fifth Ward Union School."

Two men, like officers in plain clothes, stood near the door. One held a book and a pencil.

"What is your name, little girl?"

"Mary Amelia M——."

"And your sister's?"

"Elizabeth Emma M——."

"And the little boy's?"

"Alfred Thomas ——,"

"Well, well, one name's enough," responded the scribe, not unkindly, "And where do you live?"

The address was given.

"And your father's name?"

I answered.

"And what does he do?"

This was a poser. Lizbeth's usually fertile mind was blank, but a thought seized me. Father had mentioned, at different times a number of things in connection with his business, and conceiving these to be what he meant, I began—

"First he does one thing, then another, and then another, and another," checking off each item, as I remembered it, with a little nod. It is probable that I might have continued the enumeration until now, had not the questioner interrupted with—

"That'll do, little girl, that'll do—your father does a va-ri-e-ty of things!"

The word being entirely new, and rather impressive, I accepted the amendment with favor, and we followed our guide into what was known later as the "infant room." Having learned our alphabet in the good old-fashioned way, Lizbeth and I looked with scorn at the devices here used week days in teaching a feeble minded race the a-b-c, but the little chairs pleased us, as did also a picture of a horse hanging over the teacher's desk; the engraving of Washington with the toothache on the other side of the room pained me as much then as it does now, though I did not then know why.

The teacher was very smiling and happy. She kissed Alfred affectionately, omitting the salute with his sisters, however, and we were assigned seats. It was conceded that, a student of the sciences, I should be placed in a higher class, but as we had been strictly commanded "to keep together," this was impossible, as Alfred had not yet acquired any educational

art. After some kind of singing, Miss Stevens read a Bible story. It was Samuel, a fact that would have been forgotten long ago, had not my childish ear caught her peculiar pronunciation of the word, "heareth." "Speak, Lord, for thy servant haireth," was what she said. That finished her influence with me. Lizbeth, who was neither purist nor snob, said it did not matter, but I sniffed scornfully at the lesson. As for Alfred, he took his afternoon nap at the usual hour—on the teacher's lap. The fat legs dangled conspicuously in front of the whole room, and we felt the disgrace keenly, Lizbeth and I. It made no difference to Alfred, but we dreaded the time when he should wake up, for though a sweet-tempered boy, our brother could, upon occasion, howl louder than any child I ever knew, and the occasion generally attended the moment of waking. This afternoon proved no exception. After nodding like a beautiful rosy poppy for a long time, Alfred showed signs of waking, when all of a sudden, without any warning his tremendous bellow burst upon the air. Every one started except his sisters, and business was suspended. We felt the shame keenly, but a cooky appearing upon the scene miraculously, the noise stopped as suddenly as it began, and the end was reached without further interruption.

The journey home was fraught with speculation, and though so short took a long time. Never had heaven or the angels been brought so near, or made so familiar. It seemed almost indelicate not to say immodest. Hitherto, they had belonged in the big Bible on the parlor table, never condescending to meddle in private life. As for Samuel, was he not a dear little figure with flowing curls, as he knelt with hands clasped in prayer? Often had we flattened our noses on Mother McLogan's store window, to behold him as he dwelt thus on her mantel. Evidently, he too had joined the company of familiar ones. It was all very strange—like the instructors! Lizbeth, who was an idealist, asked me if I thought teachers ate meals. At this moment, Alfred, who had been gazing at the leaden sky for some seconds, broke into the familiar howl. Urged to state the cause of his grief, he cried still louder, until a smart rap from Lizbeth restored him to sanity, and enabled him to explain that he didn't want to go to heaven, as there was nothing to sit down upon, from which we have since inferred that Miss Ketchum's urgent invitation to prepare for that blessed abode had not been received in the proper spirit.

Of course, Sunday School was now the first interest in life and a constant topic of conversation. All our games were made to conform to its supposed requirements, and the dolls led a religious life which rivaled any order I have since known

in point of attendance upon divine worship. Each Sunday found us early in our place, and Alfred took his nap regularly under the conditions first decided upon, always receiving a cake upon awaking, in lieu of the tickets his less favored sisters earned in a different way. This continued about four weeks, I think, and was beginning to lose some of its novelty when my father returned. Whether he had been informed of the Sunday School episode, I cannot say, but think he had. However, it was closed forever in less than a week after his return, and for the following reason:

There was in the class a long, lank boy of about ten. Anything more unkempt or wretched than he, is difficult to imagine. Pity and curiosity first drew my attention to him. At least I think this is so. The maternal instinct latent in every girl was roused in this instance, I feel sure, though Lizbeth, who is much brighter than I, and more observing, claims that under certain limitations, a state of "unwashedness" has its attractions, citing in proof that our schoolmates with a penchant for soiled collars and necks married earlier than more careful and less approachable confrères. My little niece, aged four, holds the same view apparently. Discussing one day the good points of her little sweetheart, she exclaimed enthusiastically: "He is so pretty, and his nails is so dutty (dirty)." But whatever the cause, this forlorn and neglected specimen just mentioned was the first boy I smiled upon. His state of mind was not divulged, as we never spoke, preferring possibly the language of the eye. Up to this time we had never seen him except on Sunday. Where he lived and how, are still profound secrets. But this fateful Monday morning he came strolling past our door and I saw him! To behold this favored youth on a week day was a boon hitherto unthought of, and with a delighted grin, I opened the gate, when a tap on the window arrested me. My father had called me in. He was a man of few words.

"Who is that boy?"

"I—I don't know."

"Where does he come from?"

"I don't know."

Father looked puzzled. "Is my little girl telling me the truth?"

"Yes sir." I could look my father in the face, for it was all true.

"Where did you first see him?"

"In Sunday School."

That settled the matter. We never went again. The teacher called more than once, but the episode was closed.

It may be that some one reading these words will think this

treatment too severe; but it must be remembered that differing conditions produce differing ideals. The daughters of European homes in father's time experienced a seclusion unknown to women in America to-day. He loved his children deeply, but the idea of segregation, though modified, remained with him to the end.

We had few toys in our childhood, but this only increased our resourcefulness and ability to enjoy simple things. To lie on one's back and watch the clouds chase one another across the sky was a source of unfailing interest, and when, at sunset, they clothed themselves in tints of pink and gold to attend the departing sun, they seemed to point the way to a beautiful country, perhaps it was heaven, a beautiful country where it was always day, and to which I should some time travel, a fancy that stays with me yet.

They say that heaven is nearest to us in our youth; the same is true of this world. Everything is ours; it is not fancy, only, that sees a face in every blossom and endows the creatures around us with the power of speech. We love all things; and love gives understanding. The hop vine on the porch was a thing of indescribable beauty; and an old-fashioned clove pink sparkling with dew can even now bring back the day when the earth was mine "and the fulness thereof"—when ambition and courage rose high, and effort knew no limitations.

I remember one morning long ago, when I was sent with a priceless offering to a sick friend of mother's. Nothing in my eyes could have been more beautiful. The day was yet early and I trod on air. No wealth, no rank could have added to my joy; and yet the passer-by saw, if he saw at all, only a plain little girl in cotton frock, bearing an immense bunch of dew-flecked morning glories. Such is childhood, and yet even these days are not cloudless; for love gives understanding, and now, if ever, we feel the suffering around us, and the crushed flower that gives a life for our momentary enjoyment, the little fish drawn gasping from the water, and the distracted bird bereft of its nest, all appeal to us in heart-rending grief. Let no man think lightly of a child's suffering in such scenes as these;—to do so only shows how far he has traveled.

Then too, fear plays an important part in these early years. Dread of the unknown, of lightning and of the dark are too common to need more than passing notice, but there are numberless other fancies that cause unspeakable suffering of which we learned adults never dream. The little pale face at breakfast says nothing of the terror stricken night; and her family dismiss the matter with,

"Jennie doesn't look well this morning," to which the stereotyped reply is,

" She'll feel better when she goes to school," which is quite true, because the night's picture fades in the interests and occupations of daylight, to return probably, the next bedtime.

My own childhood was no exception to the rule. At six, a huge spider, larger than any species known to man, used to watch me all night long. Its dreadful black eyes never left my face, and I dared not move lest it should jump upon the bed. This continued for months, perhaps longer, yet I never mentioned it but once, and that was one evening, when told to go to bed, I buried my face in father's coat and said something about the " big spider."

" There is no spider," said mother.

I nodded miserably.

" Let's see what she means," and both parents examined carefully the corner indicated, where, of course, nothing was found.

" It comes back," I sobbed.

Neither understood, but father told a fairy tale, in the midst of which I dropped off. I cannot recall whether the spider returned that night or not, but it certainly did later, and I can see the awful eyes looking at me now, and the dreadful body just ready to spring.

Later came the fear of volcanoes. This had its origin, probably in some tale of the family circle in which the destruction of Pompeii figured. At any rate I saw a mountain in state of eruption with the lava engulfing helpless people as distinctly as I saw my own home. This lasted a long time. Finally I asked Ellen if there were any volcanoes near us. She thought there was one in North Carolina. Why she thought so was not divulged. The next step was to locate this favored state and estimate its distance from us. This was finally done with mother's help, though she never knew why the question was asked. The dread of being buried alive was terrible and lasted a very long time. It was suggested, no doubt, by a picture of an earthquake found in an old geography brought down from the attic to " amuse the children." It possessed a horrible fascination for all of us. The luckless victims caught head downward in the fissures were terribly suggestive. Alfred and Lizbeth lingered longest over the mortals running to a place of safety, but they were too young to see the awful possibilities conjured up by me, and, as usual, father had to come to the rescue.

It is probable that all children suffer in this way, the fear of each being different, as suggested by each environment. But let me return to my narrative, which should now grow broader and relate more fully those facts which have to do with the conditions called for by the title of this sketch; for

the few experiences here set forth have been culled at random from our child life merely to give a setting for the picture which is to follow. They represent, fairly well, the condition of the secluded little girl of a half generation ago; I mean the little girl who had no brother to molest or intrude upon the seclusion thought proper for young females of that day. It is well that this representation should be made here, because it gives, as nothing else can, a partial reason for the conditions so deeply regretted by sociologists of the present time.

To continue then,—the time for expansion had come. Its first indication in our little town came in the removal of the front fence. Trivial as this may seem in itself, it changed our whole life. We no longer played in the garden, screened from all observation, and seeing no one save the children whom our parents approved. We had become cosmopolitan by one fell swoop of the workman's axe, and we were now citizens of the world. True, the garden was still our boundary, but we talked with every passing child and were in the public eye from morning till night. The effect of all this upon our little group may be judged from a chance remark of grandmother's,

"How bold the children are getting since the fence has been taken away." And Ellen's reply,

"Yes'm and they gets their clothes so dirty."

And now the opportunity longed for by our parents presented itself in the shape of a select school for girls. Hitherto, indeed, our town had boasted of a seminary in which young ladies were "finished," but nothing for younger daughters had appeared, so this innovation was much appreciated.

I was installed the first morning with about thirty other young *dunces* in something called the primary department. The work seemed absurdly easy; but as my previous instruction had not classified according to the iron clad rules of the institution, I was obliged to accept conditions, which I did with much apparent indifference and a great deal of inward contempt.

My first teacher was a Southerner of gentle birth, a fact she tried to impress upon us by always wearing gloves. Never but once did we see her hand, beautifully white and small, and that was in the writing lesson, when the printed copies had not been brought. We all thought she must have been a great lady in her own country, so this artifice succeeded.

The policy of the school was as different from anything we have now as can be imagined. The one subject of importance was "deportment." To enter a room properly was better than to know fractions. Sometimes I have thought our teachers were right in this view, but this idea came later. I attended this school three terms, and then ran away. Nobody called

it truancy, but so it was, in effect. Looking rather pale one morning, father asked if I were tired. Replying in the affirmative, I was told to stay at home until I felt like returning. Construing this speech literally, I am still out. I never went back, not even for my books lest the little French professor, who watched us from his office, like a spider, should question me and then write to my father. I had other plans, and it was not until fifteen months later, fifteen happy months, that I again crossed the threshold of an institution of learning. Of course, I had studied, but it was the browsing, desultory way young folks love and from which they always get so much.

The only thing regretted in leaving the French school was the fortnightly reception held for the young ladies in the interest of "deportment." The professor in evening dress and white gloves was an impressive spectacle. Young gentlemen were bidden to these functions, and these were my first opportunities to meet boys of my own age, socially; and I fancy there were others in the same position. At the first of these occasions, I well remember wearing a pale pink frock, and as all my dresses at this time were made with low neck and short sleeves, I was certainly "*de rigeur*." The one sad thing about these delightful entertainments was the scarcity of "gentlemen," a paucity that troubles the hostess even yet. The first evening was no exception to this rule. Being still rather shy, this condition was, as yet, no hardship to me, but being asked later, to join a classmate and her "company" when refreshments were served, I ate my ice and sponge cake in the presence of a young military student and enjoyed the experience, becoming, after one or two of these functions, somewhat enamored of social life; though even this did not keep me in content. In the meantime we were growing up, a fact kept painfully in mind by certain friends of the family, who when visiting, invariably asked when "Mary" was going back to school, an attention I acknowledged later by walking away from their daughters when placed in the same classes. The matter was simple. I was not tired out and exhausted by an infancy spent in the senseless confinement of a school room. This explained the whole situation.

As before remarked, we were growing up, though still young enough to regret the new furniture that was brought to adorn the sitting room about this time. Indeed Lizbeth cried when the old gray rocker went up garret to make room for its handsome successor, and she was right, for the old chair had been, in turn, a house or a fortress, from which many an invading foe had been repulsed. The new was beautiful but nobody would ever think of converting it into cradle or castle. It meant nothing to us.

But a change greater than any yet experienced was awaiting us. An unfortunate business venture had swallowed father's small capital, and what was far worse, hampered him for some time to come. But this meant little to us, and when it was announced later that all of us would attend the neighboring public school, we regarded the whole matter in the nature of a lark!

We appeared the following Monday morning when classes were in session, and followed my father timidly, as he mounted the principal's rostrum. The room, as I learned later, held two hundred pupils, and we encountered a battery of eyes while awaiting the conference of our elders. Never in my life had I seen so many boys or dreamed that so many existed; but there they sat in solid phalanx on the south side of the building. One of these degenerates winked at us, when the teacher's attention was engaged, while another made a hideous grimace at Alfred. For a moment I feared this delightful courtesy would be acknowledged in the usual manner; but cosmopolitan experiences had already improved our brother, and he stood the ordeal with tolerable composure, until the brief arrangements were made and we were assigned to classes. I was so fortunate as to find a place in the principal's room; but Lizbeth went below stairs, while Alfred found his intellectual level in the basement. And now began my first real romance. I was at this time a slender delicate girl of fourteen; my admirer, Peter Graham, was a year older, rather stout, of the type too critical relatives are apt to call "common," but in my eyes he was perfect, and he escorted me home from school each afternoon, in spite of the thunderings of the rostrum, for our principal was evidently of the same mind as the average parent of his day, and regarded the innocent association of girls and boys as sinful. It is a fact we heard more upon this than any other single subject, more than ever was said about truth or honesty, though there was much need of this sort of teaching. Our principal was a good man—as principals go—and doubtless had his reasons for this line of conduct; but his severity only rendered a sort of deception easy. We, in common with everybody else, met our companions at the end of the square, and parted from them at the corner nearest home. Lizbeth was considered very fascinating, though fully two years younger than I. She interested easily any of my friends and even then gave indications of the social popularity that was to come later. As for Alfred, he maintained the even tenor of his way untrammeled by thought of conquest, only getting into trouble when led into it by some older boy. Although we never thought of inviting our companions to the house,

this was the most natural and joyous period of school life. For me it was cut short at the end of one short happy year by further financial difficulties which so crippled the family resources that it was decided that I should prepare for teaching. Let no one suppose I chose this sacred calling upon any principle of natural selection. I was, at this time, as ignorant and innocent a girl as could be found anywhere, and even after three years of severe application in a training school, was in much the same condition. But in our little town the only avenues open to women were teaching or sewing. I felt the position acutely. Like the unfortunate steward in the Bible, I could not dig, and to beg I was ashamed; so I prepared for teaching. There was no sentiment in this, not a particle; my only assets at this time were a great love of children and a strong desire to lessen the family burden; so it has since proved rather amusing to hear affectionate friends who ought to know better, declare fondly that "Mary is a born teacher who could never assent to any other occupation—a girl so devoted to her future art, that in early childhood she played school from morning till night." Of all this I can only disclaim any knowledge. True, we did play school quite frequently when small, but the game was imported, as it were, by the girl next door, and consisted of a sort of mauling process in which the entire enrollment, teacher included, often found itself on the floor engaged in a sort of scuffle which had its rise in an attempt to discipline; and such is the power of habit that even father, an unusually truthful man, frequently related this legend, when later years had mellowed the discrepancies.

But to resume the narrative:—

The time of training at length expired and my name was enrolled in the list of eligibles. I shall never forget my first appointment. It came late one Saturday evening, and was borne by a policeman in full uniform. Like the invitation of royalty, it "commanded" the person therein named to report for duty at B School the following Monday morning. B School was the building once so familiar to us, and every member of the family was sure the principal had asked for me, a very complimentary state of things in their estimation. But I was too happy to care, and escaping from the affectionate clamor, went out and stood beneath the old pear tree. The night was beautifully clear, and by degrees the moon's calming influence began to be felt. I walked slowly up and down for a long time, and before returning to the house, thanked Heaven for my success, and asked for help in my new undertaking. How Sunday passed I never knew,

but Monday found me early at my post. If our old principal found any pleasure at seeing his former pupil, he certainly exhibited marvelous self-control in concealing it. His wooden countenance betrayed absolutely no emotion as he answered my timid good morning with the familiar snort.

"You are assigned to room K in the basement. See that your clock is with the bell each morning, and ask 'Her,'" nodding in the direction of the next room, "for any help you need."

"Her" evidently meant the teacher in J, and she proved very kind and helpful. As for my principal, he never offered any more suggestions, contenting himself with walking through the room each morning, and watching me like a cat the rest of the day. Room K held fifty little girls who were learning to read. I worked hard, and finding that many could repeat the lessons "by heart," conceived the idea of reading them backward, a process invaluable as a check upon deceivers, though not mentioned by any training school. But I was a joyous soul in those days, and loved the walk to school each morning. The path lay across the green fields, partly under gnarled old apple trees that had once been an orchard. It was beautiful to see the pinkish blossoms overhead and to watch the birds building. The air too was delightful, and with the appetite of healthy youth, I often ate my noon-day lunch under those trees, only to repair the deficiency at noon with iron clad buns from the corner store. But trifles made little difference then. I loved my school, and it was a real grief at the end of the year to learn that I had "earned promotion." So it was that in June I left my peaceful little room, never to re-enter it from that day to this.

I was no longer a cadet! My first pay-day assumed the importance of a national holiday, and I still admire the fortitude with which our elders received my first purchases. They were too precious to be brought home in the usual way, and mother's pretty brown eyes opened wide as I placed in her hands an immense china tea-pot that matched nothing in the house, and was too frail for general use. She thanked me with affectionate tact, and Lizbeth's hair ribbon was a grand success. In the afternoon I took the children across the river to a certain little shop known far and wide for its oyster patties, after which, we walked out on the high bridge and watched the trains come and go beneath us; a pastime still indulged in.

If my first year afforded little time for social intercourse, the second proved still more strenuous. Indeed these Saturday jaunts came to be the most joyous feature of the week, looked forward to by us three, until the chance remark of a

parent who "felt sorry for the young widow with the b'y," happened to reach mother's ears and brought the practice to an end.

Yes, my cadetship was ended, and the real business of teaching before me. A noted writer once said that over every teacher's door should be printed the words, "Who enters here leaves hope behind," and he spoke truth. The recognized vocation of the religieuse cuts off its devotee from marriage and motherhood no more surely than that of the schoolroom, and it does it more honestly, for the nun knows her vocation is for life; the cadet enters in the belief that she may withdraw whenever she chooses, only to find that a few years in the classroom leave her too tired, too spiritless to try anything else. I am talking of conditions as they were with us in the Mississippi Valley not so many years ago. Perhaps they were different in other parts of the country; but with us, the teacher did not often marry. True, she did try it sometimes, but not as a rule after teaching any length of time. The shop girl walks home briskly after a day's work, but the teacher, even though she leaves earlier, plods along with measured step. Lizbeth caused a hearty laugh one day when our old minister asked if Mary had a "beau."

"She don't have time," announced my loyal defender, and she uttered a profound truth; for the social graces, like all other graces, need time and thought for their cultivation, neither of which is at the teacher's disposal. As for me, I worked early and late, teaching all day and correcting all night; or at least I was expected to do so, as no time was allowed in school for the 270 themes and papers I was to look over and discuss each week. Invitations there were in plenty, but I was too tired to accept, and upon the few occasions, when dressed and pushed out by the family, I ventured to attend some small function, I had no energy to render myself agreeable. As for dancing, it was a forgotten art! Loyal friends remonstrated, but not understanding the situation they finally mistook preoccupation and fatigue for indifference, and it began to be noised abroad that Mary was becoming a blue stocking. Was ever fate so cruel? For what young woman could overcome the effect of this social handicap? The average young man passed by on the other side; and he was quite right. It takes courage and a large heart to choose a companion as intelligent as oneself.

And yet, even in those days, fate did not forget me entirely. One afternoon the senior class in English was giving a play. Every one remembered his lines, for a wonder, and my office as prompter was rather a sinecure in consequence.

It was just before Christmas, and the auditorium was crowded with what the next morning's paper would call a "representative audience." So with an unusual sense of leisure I was standing back of the stage chatting with one and another, when a stranger interrupted to ask some questions about the new heating plant just installed. He looked like a well dressed successful merchant of about thirty-five or forty, and as I turned to answer him, said something about wishing to examine the heating system, "if it was not too late," so I called the janitor, and the occurrence was forgotten until some days later, when the assistant janitor, a bright young Irish woman came to my door, with—

"Sure, Miss Morrison, saving your presence, I think that Mr. Anderson has a pile of cheek, so he has!"

"Who is Mr. Anderson?"

"He has that big clothing store under the Opry House. He's a big man, and he comes here this marnin' at half-past-six."

"Did you tell the principal?"

"Sure an' I did not. He wants to know where you lives. Miss Morrison; an' it's a pile of cheek he has; at half-past-six!"

"Anderson, a merchant," thought I, unable to make any connection. There was a little Anderson in one of the primary rooms, and a Mrs. Anderson had once come to me when trying to find the principal; but why should the husband want to see me?

The question was answered later in the week when Mr. Anderson appeared one evening at my home. He indulged in no useless preamble—

"Do you know why I called, Miss Morrison?"

"I do not."

"Do you know why I came up to the school?"

"No."

"I have known you a long time by sight, Miss Morrison. You pass our store very often."

"Yes," said I vaguely.

"Don't you know why I came up to the school?"

"No."

"Can't you guess?"

"I cannot."

"I came to see you."

Silence.

"I came to see you."

No answer.

"You can do with me anything you choose. From the first moment I saw you I knew that you could make of me any-

thing you chose. Anything you want!" continued my visitor, with much more of the same sort.

I was so astonished that I felt perfectly calm, if this condition can be understood. I remember a wild thought of insanity darted through my brain; but I looked at the man with perfect composure. He was much excited; as he ought to be. My wits were slowly returning.

"Your little daughter attends our school, Mr. Anderson."

"She does."

"And Mrs. Anderson has visited us."

"Has she?"

"Then I cannot understand—" I began with rising temper; when my visitor interrupted with—

"Wait Miss Morrison, that's a tie that can be broken!"

His answer stunned me, but, absurd as it may seem, the full enormity of it did not come to me till the next day. I was ashamed to tell my elders; I knew what my father would do; at least I thought I knew. But I asked Lizbeth's advice. She was very indignant, but could suggest nothing, so we decided to tell nobody, and to avoid going near the store. Probably we should never see him again. But in this we were mistaken. Several weeks had passed, and I was beginning to feel quite care-free again, when an occurrence brought back all my restraint in a moment. I had stayed late one afternoon to finish some papers and it was almost dusk as I stepped into the dressing room for my wraps, when glancing at the street below, I saw Mr. Anderson standing beneath the portico, so near to the wall that one coming from the building would not see him until fairly out on the walk. A sort of senseless terror seized me; yet why should I be afraid? The janitors were both in the building, and if it came to the worst, I could ask one of them to walk home with me. So I waited until they were ready to go, and then stepped out with them. No one was in sight, and I hastened home, running nearly all the way. Lizbeth was very much frightened and for the remainder of the winter, I never came out of the building alone. But all my precautions were needless. We never saw Mr. Anderson again.

Then there was the handsome widower, old enough to be my father, who told me with tears, that his late wife had bidden him make me her successor, "after a proper time had passed." She had been dead three weeks when he brought her message, and the old gentleman seemed quite impressed with his consideration. He offered me all his money, and behaved in quite a large hearted way; making several generous promises that I had not the courage to accept.

The young electrician who lived near was magnanimously

given to me, also, though I never spoke to him in my life. He drowned himself, and I can well recall the dreary visit of condolence Lizbeth and I made the next day. We were received by his married sister, a fine, handsome woman, whom I had met once before. Wishing to say something sympathetic, I remarked,

"It must have been a dreadful shock, Mrs. Williams, almost as great as if it had been your husband." To which the lady responded with great fervor,

"Worse—much worse! You can get another husband, but not another brother!" She then asked who our minister was, and ended with,

"I'll send for him. Robert would wish it. He hoped so much to know you, some time—oh so much! He tried so hard to meet you, but you never called; and we have lived here two years!" This painful visit came to a close at length. After the funeral, our minister called to ask why he had been chosen to officiate. Fortunately mother was the only one who saw him, and she did not know.

The young divinity student was originally a classmate of Lizbeth's who fell into the habit of accompanying me home from prayer meeting. We lived about two hundred feet from the church, and the road was very dark and lonely. Nelson made a fairly good salesman, and was in the way of promotion, when he took a notion to study for the church. I was disgusted; even Lizbeth, much broader than I, was shocked that a man with so little talent should aspire so high. But he went to college and after four or five years, received a "call" to a far western parish, where he stayed until about three years ago, when he died, leaving a wife and baby. He was not considered a gifted preacher, exactly; and there are still people in our native town who say,

"What a shame he thought so much of that Mary Morrison. No wonder his life was spoiled!" So evidently, I am held responsible for all those poor sermons. Isn't that awful?

Looking back now, these experiences seem like a dream. It is almost impossible to realize how true and real they once were. It is a mercy that time blurs the sharp outlines of our earlier years. Still I was not unhappy. Though so fond of society, I loved my work, and in it found that sort of contentment that always follows a sense, whether true or false, of duty performed. That it was a duty, I fully believed, for we were caught in the birth throes of the "new education," and the development of woman was the battle cry. To be intelligent, to have a mission, was urged upon us in season and out of season. Pulpits grew oratorical on the subject, and journals held forth in dry, lengthy columns upon the

duty of sacrifice to some good for the race. One wretch, who deserved hanging, wrote in a prominent school journal that any woman who did her duty in the class room, could not, and should not expect to maintain health for a period longer than five years, and this outrageous statement went unrebuked. Be it remembered, however, that it was the woman who was urged to make this sacrifice, never the man! Marriage was rather frowned upon by these high priests of the new cult; never to be thought of except under the most ideal conditions. Only the perfect man was to be taken, and not even the perfect man if the girl had a vocation. The neighbor who taught with me, and whose devout mother had been caught by the clatter, was urged to pray for a mission, but declined, fearing, as she confessed to me, that her prayer might be answered. I shared her fear. My whole soul cried out for the frivolities of youth, and no Israelite longed for the flesh pots of Egypt more strongly than we for the bright garments and gay company that belong to youth.

But though not desirous of a vocation, I loved my school, and prayed for wisdom in its undertaking. In it I was contented and happy for the present. At this time life stretched before me, an unending road that wound through verdant fields and sunny plains. This road was always bright, and at one turning I always saw, with clear vision, a home and children that were mine. I knew just how they looked, and how I should dress them. My husband was noble in every aspect of character, and I was blest. With this future before me, I could afford to spend a few of the uncounted years in the care of the young people whom I always loved. So we worked and played together, as many another school has done. So the days passed. An occasional suitor came—and went. Lizbeth married, in time, and then Alfred, little Alfred! They said I was too particular, and perhaps this is true; for everything has its season, as I have found; and, as Mrs. Poyser said,

"One loses his appetite for dinner, if he waits too long."

So I am a spinster, and shall probably remain so till the end of time; unless—unless Peter should return. For no one can stay the hand of fate; and what is written is written!

PAUL NATORP'S SOCIAL PEDAGOGY

By M. W. Meyerhardt, Clark University

For the purpose of obtaining an insight into the views of Paul Natorp as representative of German social-pedagogy a division of his writings into three groups appears most convenient.

(1) His earlier writings, which served as the basis for his principal work.

(2) His "*Sozialpädagogik,*" which has been called the classical work of German social-pedagogy.

(3) His later publications, in which he modifies, or elaborates on, former views.

The term "*Sozialpädagogik,*" as is well known, is not of his making, for Diesterweg had used the term before him. As a matter of fact, an article by Natorp entitled "Zur Schulfrage," published in *Ethische Kultur* in April 1893, does not contain the term, although the problems involved in it are already touched upon. In arguing for the establishment of a real "*Volkschule*" he points out that the maxim, uneffaceably stamped upon pedagogical science since the days of Pestalozzi, Fichte and Schleiermacher, namely, that "rank and class distinctions are utterly out of place in the sphere of education," has been lost sight of by all political parties save one, the social-democracy. This demand, nevertheless, is the irremissible basis, and thus an integral part, of every democratic and truly liberal educational scheme. Popular education, in the true sense of the term, is not that which provides for equality merely in the common schools but that which, in the higher as well as in the lower institutions, rather than social standing and parental wealth, regards the pupil's mental endowment as the sole criterion in determining the extent of educational opportunity.

In the latter part of this article he discusses in a preliminary manner the subject which furnished the topic for his next publication, entitled "Religion innerhalb der Grenzen der Humanität. Ein Kapitel zur Grundlegung der Sozialpädagogik." It is here that the term "*Sozialpädagogik*" first occurs. This fact, however, is but secondarily responsible for bringing the essay more properly into the realm of the new

concept. Primarily it is the precise language in which his ideas are couched,—its joyful freshness, emanating obviously from a consciousness of unfolding a newly discovered treasure,—which stamps the concept with a clearness not essentially enhanced by any of his later writings. Add thereto the tone of deep conviction which rings in his words and the fact that they clearly expressed what many but dimly felt, and it is easy to understand why by his adherents this one is considered the most felicitous of all his works, and why even those unable to subscribe to his views acknowledge the spark of genius in the man.

The aim of the book is described as a proposition for peace; an attempt to rediscover the ground of unity of religion, but "only in humanity itself." In order to ascertain whether or not there is in it a place for religion it is first necessary to define the meaning of humanity. Humanity, Natorp holds, means the truly human in man developed into a dominant dynamic motive. It therefore implies as an essential condition that, closely allied with a harmonious development of human nature in all directions, there be present in the individual a potential interest in human society as a whole. Out of the latter, in so far as truly human content is concerned, the individual is evolved and into it he must grow by means of activities which are based on and directed toward culture. And culture, not only in the lower but even in the highest sense, is simply the unavoidable reduction of individual life to that of the community. The ordinary man, to be sure, is satisfied to eat and sleep day in and day out and to partake with dulled senses of the pleasures which the work of others has rendered accessible; and with equally indolent ease he sips of mental food as if humanity, throughout the centuries, had used its brains merely for the purpose of bringing forth just him and to give, in the fruits of its labor, some content to his empty hours,—some imaginary value to his existence. The more highly educated, on the other hand, know only too well how small a part of the individual's mental possessions has been worked out by himself; how in everything which he manages to produce all humanity has had a hand and that the essentially new, his own contribution, is hardly worthy of mention. From this knowledge emanates the conviction that the culture of man is possible only by congregating individuals in a totality of workers,—in an organization of work. Only by such an arrangement can the demand for a harmonious development of all human forces, and of each force in its essential direction, be met. For, after all, to measure the value of one's work on the scale of total human achievements, that alone is ethical culture. "Not to merely fit oneself as

well as possible into one's limited circumstances and there to do one's best is the end of ethical culture, but to recognize one's relation to the whole human community as it is, as it has been, and as it will be, and to adjust one's aims accordingly, that really means to share in humanity; that means to be cultured in the truly human sense of the term."

"Can there be something still higher?" Natorp asks. And he answers: Ostensibly there is, namely, religion. But, he continues, were that the case, what would be the import of religion for humanity? Could it supersede or perhaps replace it? Many answer this question by radically asserting that religion is an individual affair which has nothing whatever to do with humanity. That is the position of the most honest and intelligent of her opponents who argue that religion on her own accord has taken a place outside the great common problems of human culture. This position, however, is hardly tenable since all the higher forms of religion evince a tendency toward an almost opposite conception. In the monotheism of the second Jesaja God is conceived as merely the highest product of human consciousness,—the ideal man. Again, in the original form of Christianity, Christ, in his person, represents merely the elevation of humanity to deity. To found the Kingdom of God on earth in the hearts of men, in the fact of man loving man, that was the high meaning of Christianity. The rediscovery of it was the merit of Luther who, by emphasizing the maxim that the good must be done not for the sake of God or a future life but for the sake of fellow man, accentuated the ethical ground of religion. Moreover, whoever wishes to eliminate religion or to isolate it in the narrow enclosure of the individual must bear in mind that, in doing so, he parts company not only with the prophets, the founders and reformers of religion, but with the men of the *Aufklärung*, Lessing, Kant, Fichte, yes even Göthe and Schiller, who in their essence cannot be understood without an insight into the universally human meaning of the name of God. In brief, Natorp contends that religion, or the belief in God, represents not only the far off ideal of a more moral and a more perfect future state of humanity on earth but that it includes the immediate and living certainty of the good in the world,—in the hearts of men and above them. This certainty is derived from the fundamental nature of the psychological root of all religion, namely, feeling, which is to be regarded not as a separate sphere of consciousness and apart from cognition, volition, and creative imagination, but as their common fundamental psychic force. Feeling represents the whole *Innerlichkeit* of psychic life. It is the subjective reaction to the whole content which happens to be

present in consciousness and is an inseparable component thereof. Formless itself, it is the infinity of that in it which strives for a form that prevents clear utterance. In this *Urelement* of feeling we must look for the life of religion, whose peculiar essence is nothing else than infinite, formless feeling striving for unconditional predominance and aspiring to universality in spite of all other content of consciousness. Religion wants to be the feeling of the infinite; it is rather the infinity of feeling. This is proven by the fact that we make the infinite the object of this feeling. Now it is in the fact that in religion feeling wants to posit an object of its own that there arises the danger of transcendence in a theoretical as well as in an ethical direction. For there is to all arguments against such a procedure always the same answer, namely, " we derive it from feeling, and is not this likewise a kind of cognition and even the most immediate and certain? " This dictum, however, Natorp contends, is unsupportable. Feeling, he explains, represents the inner continuity, the indivisible unity, of conscious life and as such is destined to connect most intimately the three content giving instances of mind, namely, science, ethics, and art, and to reduce them to their common subjective source. But the positing of a new object by feeling through religion is a mere illusion. Consciousness, and all that is a part thereof, is unable to transcend the human, hence there remains for such a course a mere subjectively sufficient reason.

From all this it follows that everything in religion which is based on the true and genuine ground of feeling is tenable and justifiable. As to the trueness of feeling, however, feeling itself cannot be the judge, but rather science, ethics, and art, and their content. Thus, religion, with all its claims and all its worth, is included in the limits of humanity.

But, though the concept humanity embraces the moment of community, there still arises the question: What is the relation of feeling, and through it of religion, to the community? This question is answered by Natorp as follows: Although feeling is placed in the domain of the individual, the force of emotional life does not exert a disconnective influence; nor does individuality mean isolation. On the contrary, the soul, soaring ever higher and higher, reaches up to the soul of the universe; but this is no longer a universe of things, but an inner universe in which everything human flows into unity and community. With the abandonment of the pernicious claim of transcendence the place of a deity in feeling is taken by humanity itself, that is to say, humanity as idea; and not as that of an eternally far off aim but, corresponding to the character of feeling, as idea in its most intimate relation to

real life, of which we ourselves and our human brethren are a part.

The introduction of this idea into the reality of human existence is the theme of a pedagogy which Natorp calls "*Sozialpädagogik.*" Theoretically its task is "the investigation of the social conditions of culture and the culture conditions of social life, and this on the just supposition that the form of society is subject to change."

Natorp's next two works were of an historical nature and served to illuminate in part the background in which his social-pedagogical ideas germinated,—a background which is more completely revealed in his later work: "Gesammelte Abhandlungen zur Sozialpädagogik."

The influence of Kantian thought on his philosophical foundation of pedagogy is easily recognized in all his writings. As a matter of fact, in the Kantian maxim, "always act so as to use humanity, in thy own person as well as in that of others, as an end and never as a means," Natorp thinks we must acknowledge the solution of socialism as ethical idea.

Natorp's demand for a national school points back to Plato and to Condorcet. He combats as mistaken that unfortunately but too frequently encountered point of view which is unable to find in the history of the past anything more than a mere, and superficial, preservation of what has perished. To Natorp, on the contrary, the Platonic state as idea, and in its social-pedagogical import, is a propelling thought and a culture moment of all times. In Plato's conception of the state we have the classical view of that indisputable truth "that, while community, on the one hand, presupposes human culture and is conditioned thereby, on the other hand, community conditions and determines human culture." "Social life, as does the individual, includes three functions: To impulse, will and reason, in the latter, correspond economical life, and the power of discipline and legislation, in the former." "Culture of the individual, in the proper sense of the term, and the development of social life are most intimately connected." "The highest demand made by the ideal State is that all our doing be based on one aim in life, namely, the common good. A primary condition of this is harmonious coöperation of the three fundamental functions of the individual, but, on the other hand, this is surely to be attained only when the totality of individuals also is aiming at a similar harmony of life." These are the essential points of the Platonic doctrine of the State whose validity, in Natorp's opinion, cannot possibly be disputed. Since the school, so to speak, is the State on a smaller scale, it should serve the purpose of accustoming the pupil to the social orders. To that

end the school must appropriately conform to public life and be organized accordingly, that is to say, as a national school. From the same principle the whole content and method of school education can be derived.

An almost inexhaustible source of inspiration to Natorp, obviously, was Pestalozzi. It is due perhaps to no small extent to his Pestalozzian studies that the world to-day begins to appreciate the magnitude of the latter's pedagogical insight; the fact that his real greatness rests in the socialistic spirit of his pedagogy, in his recognition of the close connection between the social problem and true human culture, and that at a time when a social problem did not exist, or rather when it had hardly risen above the threshold of human consciousness. In his "Pestalozzi's Ideen über Arbeiterbildung und soziale Frage" Natorp's views are based chiefly upon Pestalozzi's "Meine Nachforschungen über den Gang der Natur in der Entwickelung des Menschengeschlechts," a work which Pestalozzi himself judges very severely and which to his contemporaries remained a book with seven seals. But, writes Natorp, in radical acuteness this work comes up to Rousseau, in depth of conception, in power of abstraction and in philosophical insight it surpasses him. The development of merely social to ethical right; the gruff declining of all philanthropy in the form of alms and hospitals, by which "right is buried in the dung-pit of mercy;" the social-political and social-pedagogical import of physical work in the community; his religion, which is "nothing else than the divine spark of my nature and my power to judge myself within myself,—to condemn and to absolve;" all this acts, in the prophetic poetry, and force and depth of foresight, as one great appeal to the present age.

The work through which Natorp became best known in educational circles is entitled: "Herbart, Pestalozzi und die heutigen Aufgaben der Erziehungslehre." It assumes throughout the character of a declaration of war against Herbartianism. Although the negative aspects of these polemics present many interesting points, this is not the place for their discussion. The positive views resulting from this study are found in a later work, his "Allgemeine Pädagogik in Leitsätzen zu akademischen Vorlesungen" which deserves discussion at somewhat greater detail, more particularly since it embodies in a succinct form the gist of his principal work: "Sozialpädagogik," and again, since in the latter his investigations are concentrated on the formation of the will,—intellectual and aesthetical culture being considered only in so far as they are involved in this problem,—whereas here all three are given a fundamentally equal position.

With typical German thoroughness Natorp begins at the bottom with a definition of the term "education." To educate, as in the world of plants and animals, means "to induce normal growth by means of proper treatment or care." The term therefore refers to the distinction and reciprocal relation of nature and culture. It presupposes (1) the possibility of growth,—the progressive development of natural endowments to a certain height, to be attained under normal conditions;—and (2) the possibility of enhancing this growth by special care without which the end would be not so well, or not at all, attained. The first proposition involves aim and content, the second proposition is concerned with mode, of education. On the whole, the term "culture" is probably better adapted to expressing the *whole* task included in the pedagogical problem since it indicates more plainly the form, that is to say, the necessary inner conformity to law, of the development of the human in man. The concept "culture" cannot be derived immediately from experience but includes a deep problem. To culture means to form or to bring to a peculiar state of perfection. It therefore presupposes a notion of what ought to be,—a notion of purpose. But, no less points the concept "education," by focusing on the strengthening of the will, to an end. We call the notion of something which is not, but which ought to be, an idea; hence both concepts, culture and education, lead to the problem of grounding the idea.

The validity of the idea in general is established by relating it to the unity of self-consciousness which, on the one hand, is the original basis of all experience and yet, on the other hand, is not limited by experience since it may transcend the object perceived with the idea of what it ought to be.

Everything in time is subject to the law of causation. But, while to a certain extent this is also true of consciousness, consciousness is connected with the moment of time not absolutely but, looking both backward and forward, assumes, so to speak, a point of view above it. Hence it is able to relate all events of the past, present and future with the non-temporal idea of that which ought to be. To the external objects of nature, to be sure, this mode of contemplation is not immediately applicable but rightly to us who have a consciousness of self. By this fact we are justified in regarding ourselves not merely as "nature," that is to say as objects of experience but in saying that we relate our finite, empirical being with, in a way measure it on, its infinite, trans-empirical end,—the idea. Hereby the idea remains still intimately connected with experience since all contemplation, though it rise to the standpoint of the idea, is always referred to experience

by its content. The idea merely represents the infinite mission of experience itself. It prescribes progress step by step in the finite but toward an end conceived in the infinite and, consequently, empirically unattainable.

From what has heretofore been said it is obvious that for Natorp an idealistic, philosophical foundation of pedagogy is inevitable. And not only one or several of the philosophical sciences are, in his opinion, necessary to the establishment of this foundation but philosophy as an indivisible whole. The generally accepted Herbartian view that two special branches of philosophy, namely, ethics for the determination of the aim, and psychology for the determination of the means, of education, suffice as theoretical basis of pedagogy, he holds to be an erroneous one. For, ethics legislates merely for the will and, since education covers all essential directions of psychic activity, logic, or the laws of thought, and aesthetics, or the laws of creative imagination, should be included for the sake of harmony,—a harmony which demands relative independence of all components as well as reference to their common end,—the idea. Again, the activities of thought and of free imagination are, to be sure, dependent upon the will. But they are, at the same time, subject to certain laws not deducible from those of the will. Hence these activities may be expected to have original relations with the idea, founded upon their own laws,—a fact, not appreciated in the Herbartian scheme. Not ethics then alone, but all three normative sciences, must determine the task of education, and not the psychology of the will alone but psychology as a whole must regulate educational activity.

The part played by psychology, however, requires still more exact definition. It is not correct to say that the normative sciences give us merely the end and not at all the means of education. By developing the whole content of consciousness as lawfully constructed, they describe in an objectively generally valid form the normal progress of human culture. Since the culture of mind consists of nothing more than the conforming to it in accordance to their own laws (which, however, are no others than the laws of mind itself), of the worlds of objects and of science, morality and art, it is quite possible to describe in a purely objective manner the whole content of human culture as well as its normal progress on the basis of the philosophical sciences alone, and without the aid of psychology, which constitutes rather the science of subjectivity. In other words, Natorp holds that the generally valid in pedagogy must find its theoretical basis in an objective way of investigation that looks to ethics, logic and aesthetics, for its supreme laws, whereas psychology, focusing on the

subjective experience of the individual and being concerned with the individualization of educational activity, is able to advise us how to act not in the course of general educational procedure, but only in a given individual case.

To this double foundation of pedagogy corresponds in a way its chief division into a theory of the content of education and that of educational activity. In view of what has been said above, consideration of the former must necessarily precede that of the latter. General psychic development being ultimately subject to the same general laws, it follows that the special form of development in the individual must be dealt with later. Again, supporting this view is the fact that the content of education is not something simply given but something which is ever in a state of becoming. It is this process, objectively considered, that is to say, the development of the world of objects without regard to subjective distinctions, which we call culture. In its objective aspects then the content of education is identical with that of culture. They both are aspects of one thing which we call culture, when apperceived as the common property of a civilized community; education, when we focus on the mental property of the individual. Thus arises the need of studying them together.

The systematic arrangement of the whole content of human culture must, of course, be made to accord with the chief directions of the culture work of humanity, ascertained by philosophy as scientific, ethical and aesthetic culture, and as corresponding to the three fundamental directions of consciousness which may be classed as cognitive and expressive activities. From this division originates, in the sphere of the intellect, the difference between theory and technic, knowledge, and the consequent subordination, of nature; in the sphere of will, the difference between moral sentiment and moral action and between individual and social mode of life; in the sphere of aesthetic fancy, the difference between artistic imagination and artistic creation. Religion, on the other hand, as has been shown, has a peculiar development and position of its own, although the content of all is drawn into its service.

Natorp's idealistic philosophy does not admit of dualism in any form. For him an antithesis between the social and the individual does not exist. The isolated human individual, like the atom of the physicist, is but an abstraction and is indeed not truly man without society. Since all culture activity is consummated on social ground, and since the factor of conformity to law in the creation of the content of human culture is the same for all, all created content of human culture is

per se also social. Individual only is the limited extent to which each one according to his abilities and circumstances is able to partake of this common possession. On the other hand, the process of acquiring depends wholly on the activity of the individual. The social character of all culture content, consequently, does not at all antithesize individual culture activity but rather presupposes it. The community itself exists only in the consciousness of the individual; it is constructed in the individual consciousness by everything that serves as material for the content of human culture. According to the fundamental law of the unity and continuity of consciousness, which permits of no content in isolation but connects all contents and unites them in more and more central and comprehensive unities, it is not possible that in the meeting of two such mental entities one remain isolated and opposed to the other.

The essence of the concept "*Sozialpädagogik*" is the acknowledgment of the fundamental fact that "education of the individual is in every respect conditioned by the community as much as reversely a human formation of the community is conditioned by an accordant education of the individuals in it." The social conditions of culture and the culture conditions of social life constitute the strictly uniform theme of social pedagogy. The latter accordingly is not a second discipline which supplements individual pedagogy. As opposed to this view Natorp's conception is a strictly monistic one. All culture, he holds, is, on the one hand, social; on the other hand, individual. But the purely individual aspect of culture is a mere abstraction; the complete aspect of culture is the social one. The latter includes the former and is not added as an element from without.

The stages of organized education are three in number, namely, the home, the school, and the free union of adults. The fundamental principle in a social organization of educational activity is that education for economic work, right from the beginning, be organized so as to fit into the working spirit of the community and to correspond to the systematic arrangement of the social activities; again, that education for political activity correspond to the political life of the community and cause the rising generation to grow into it step by step; finally, the gradual maturing of reason in each member of the community must coincide with his increasing participation in the common culture work. This three-fold development is indeed effected in approximately corresponding external forms of organization: (1) The home, the family, as cell of the economic organism, constitutes normally the basis for the first step of social education. The home is the first,

most immediate community into which the human individual grows. To the home, therefore, as Pestalozzi rightly maintained, pre-eminently belongs education of the senses and of the hand,—the accustoming to true and immediate work which, at the same time, necessarily leads to the elementary forms of intellectual, ethical, aesthetical and religious education. (2) To the second step, to the conscious direction through the will,—to the stage of regulating practical as well as theoretical reason, corresponds the form of school-organization. Here the mode of education is, and must be, a more mediate one in order that the young may learn how to conform to what is necessary without the presence of an immediate stimulus. From this special task of the second stage in education arises the need of the whole external formalism which marks school education and obviously resembles the formalism of law. (3) The third stage, although the most liberal kind of education, can nevertheless not entirely dispense with some form of organization. We have it, in a to be sure as yet but partial state of development, in the form of the university. It is a legitimate demand, however, to ask for an extension of the university so that all classes derive as much benefit as possible. The establishment of people's universities and university extensions, which would represent a true *universitas*—a centre of liberal culture for all classes of adults, is being discussed. Institutions of this sort, in their most ideal form of development, would come closest to a realization of the Platonic demand that the whole social life of the community be permeated with the highest mental, moral and aesthetic culture which it is able to absorb. Common culture work would then be the inevitable result of social life and, reversely, also the strongest pillar of economic and political community. The most profound task of the present age, confronted as it is by the problem how to bridge the deep chasm between the upper and the lower strata of society, is that of organizing liberal education for adults, more particularly for the adults of the laboring classes, conducive to this end. This includes the need that all efforts in this direction go hand in hand with the efforts for the improvement of their economic condition and of their political education.

A painting by the German artist Klinger, "Simplici Writing Lessons," has been pointed out as representing in a symbolic way all that Natorp wishes to express. There we see a boy, whom the brutes of the thirty years' war have scared into the depth of a wild forest, snuggling close to an aged and unsightly recluse who with his wiry fingers grasps the youthful hand and attempts to instruct the strange boy in the by himself long ago abandoned art of writing, while under the

table, constructed of barks, the white, soft legs of the young blood touch with the tanned and repulsively ugly ones of the old man. "How there beams forth out of this counterpart of life the felicity of brotherliness!" Natorp would say.—Here indeed is community; the genial intercourse of two souls; the continuity of will. There, a human being, which in all but memory had shyly secluded itself from all mankind, overcomes at death's door the set habit of a life-time and rises from the emptiness of voluntary solitude to the active spirit of community. Here, a soul which in genial anticipation divines how the life of human society is ever quickened by this means of intercourse: the art of writing.

"To thee I bequeath what I have of earthly possessions!"

"Through thee I range myself a link into the chain of humanity!"—these sentiments interlace here in the genial activities of two souls.

Paul Natorp's Works

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EXPERIMENTAL PHONETICS AS AN AID TO THE STUDY OF LANGUAGE

By Sarah T. Barrows, Ohio State University

Within the last twenty-five or thirty years a new science has sprung up, the science of Experimental Phonetics, an outgrowth of the efforts of men of very varied interests to investigate the nature of speech sounds and their relations to the organs of speech. Philologists, physiologists, physicists, psychologists, special physicians for the throat and nose, singing teachers, teachers of the deaf and dumb, all have contributed to the development of the new science; and there has been an inclination to classify Experimental Phonetics as a branch of one or more of the allied sciences and to deny it an independent existence. The friends of Experimental Phonetics, however, contend that it should be considered as a separate science, just as chemistry, although it draws from and completes other sciences, has an independent existence.

There are probably something more than twenty-five phonetic laboratories in existence, most of which are in Europe. Abbé Rousselot, of the Collège de France, in his somewhat primitive laboratory in Paris, has done remarkable pioneer work in Experimental Phonetics, and has been undoubtedly of greatest service in establishing and developing the new science. The most noted work in Experimental Phonetics in the United States has probably been done by Prof. E. W. Scripture, who is connected with the department of Psychiatry in Columbia University.

I spent last winter working in the Phonetic Laboratory in Hamburg which, it seems to me, may be regarded as a model laboratory. The Phonetic Laboratory in Hamburg was founded in 1910, through the efforts of Prof. Meinhoff, Professor of the African Languages in the Colonial Institute, and Dr. Panconcelli-Calzia, who was at that time in charge of the Phonetic Cabinet in Marburg, was called to be its first director. The new department, with its very modest equipment, was at first housed in a part of the Physical Laboratory of the Colonial Institute, but it soon outgrew its small quarters, and a fifteen-room building was provided for it by the city, and fitted up with the thoroughness of Germany and the lavish generosity of Hamburg. Already, after three years, the new

building is proving inadequate, and larger quarters must soon be found, while new assistants are continually being added to the working force. In addition to Dr. Calzia, the staff consists of a philologist, a vocal teacher, a teacher for the deaf and dumb, two mathematicians, a special physician for the throat and nose, and three technicians. The laboratory is the center of all the related activities of the city; teachers and students of language and singing, teachers for the deaf and dumb, physicians, bring their problems and the result of their experience to the laboratory, and the children of the public schools who have speech defects come to have their speech examined and to learn proper articulation. In fact, the laboratory has proved itself to be a living and indispensable factor in the city educational system.

The equipment of the laboratory is most complete. There is a Roentgen-ray room, with rooms for developing and drying photographic plates, and much valuable information regarding the action of the larynx and the velum has been obtained from experiments with the Roentgen apparatus. There are phonographic rooms with instruments for making and playing the records, with a large collection of records and many different kinds of phonographs and gramophones; there are lioretgraphs for converting the grooves of the gramophone records into sound curves; there are kymographs and instruments for measuring pitch and force. Besides the experimental apparatus, there are all possible instruments for demonstration purposes such as laryngoscopes and kinematographic records for showing the vocal chords and their activity. These moving pictures of the larynx were made by Dr. Calzia and his colleagues in the laboratory, and give a wonderful exhibit of the strenuous activity of the vocal chords in the production of sound. There is also apparatus for demonstrating the physical properties of sound, and innumerable models to help give a clear comprehension of the construction of the vocal organs and their functions.

The instruction is by means of lectures and laboratory practice, the course being carefully planned to give the student technical control of the instruments together with an intelligent comprehension of the phenomena as they are gradually revealed to him. The course of instruction includes briefly: the study of the breathing organs and their functions; the study of the larynx, including the dissection of the human larynx; the investigation of speech sound by the kymograph, lioretgraph and gramophone; the measuring of pitch, quantity and force, with practical exercises in ear-training and sound imitation. As there are usually students of many dif-

ferent nationalities working in the laboratory there is plenty of opportunity for practice in ear training and sound imitation. Even last year, which was of course a most unfavorable time, we had a Hollander, a Spaniard, an Austrian, an American, besides Germans from three different provinces. There are also always native Africans studying in the Colonial Institute who allow themselves to be used as "*Experimentierkaninchen.*" Their speech is especially interesting, not only because they have sounds not found in European languages, but also because many words, otherwise identical in sound, can be distinguished only by the pitch. For instance, the same word "*fu*" means *hair* or *white* according to the pitch of the vowel *u*. The African language is therefore a valuable means of training the ear to perceive difference in pitch.

Dr. Calzia himself is an Italian, a native of Rome, whose parents however came from Tuscany, so that he speaks not only the standard Italian but the Roman dialect. He studied for several years in Paris, so that he is very familiar with French, and has been for the last thirteen years in Germany. He speaks therefore three languages fluently and has a first hand acquaintance with their sounds, so that he is especially well fitted for his position. Dr. Calzia is a competent and inspiring instructor who knows how to impart his knowledge and enthusiasm to his hearers, and who has a profound belief in the mission of his chosen field of work. He is assisted at present by Mr. W. E. Peters, an Australian holding a Carnegie fellowship, who is doing remarkable work in intonation curves.

But one who has heard a few lectures on Experimental Phonetics or watched a few experiments will perhaps say: "This is all very interesting and may well have its value as pure science, but of what practical use can it be to the student of language? I could work a year with these instruments and be tremendously interested, but I do not see how my own pronunciation can be in the least influenced by it." My work in Experimental Phonetics has convinced me that it can and does have an actual and permanent value to the student and teacher of language.

In order to be able to teach successfully the pronunciation of a foreign language, one must have first of all a correct pronunciation himself, must have a keen ear, and a knowledge of how the sounds are formed, not only in the foreign language, but in the native language of the pupil. Experimental Phonetics helps one to gain a thorough acquaintance with the nature of speech sounds, and one's hearing becomes trained to distinguish shades of difference in sounds which were

before imperceptible. The ear is an unreliable recorder of sound, the impressions are of short duration, but if we can get a permanent record of speech in the form of a sound curve which is visible to the eye, we can obtain a clearer idea as to the real character of speech sounds.

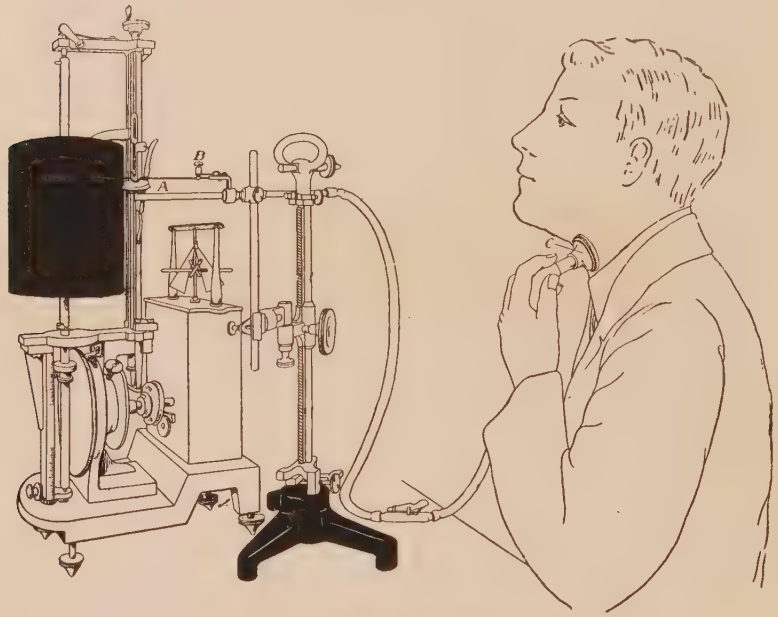

Fig. 1—Speech Kymograph

A speech kymograph is an instrument which records speech sounds in the form of sinusoidal curves. It consists of a rotating cylinder connected with a motor. On this cylinder is pasted a strip of smoked paper. Beside the instrument stands an upright support to which is attached horizontally a metal tube having at the end a tambour, a tiny box covered with a tightly stretched rubber membrane; above this and resting lightly upon it, or attached to it, is a delicately balanced lever, carrying at the end a light pencil or brush. At the other end of the metal tube is a piece of rubber tubing to which is attached the apparatus transmitting the sound waves from the organs of speech: for the mouth, a mask covering it entirely; for the larynx, a tambour; for the nose, glass olives which can be inserted into the nostril. It is possible thus to record simultaneously the sound waves in the larynx, the mouth and the nose. This is really a new and direct way of

writing, in which instead of words being inscribed by the hand in the conventional spelling, they are recorded by the instrument as they are formed by the organs of speech.

Let us see what can be learned from a few kymograph records of speech sounds. In general we may say that the chief difference between the sounds known as voiced and voiceless stops, as for instance *b* and *p*, depends on the part that the vocal chords play in the formation of the sounds. Examination of the curve for the larynx shows that the participation of the vocal chords in the production of speech may be of varying degrees. They may vibrate during the entire

Fig. 2

sound as in line 1; they may vibrate only at the beginning of the sound, as in line 2; they may be silent altogether, as in line 3; or they may vibrate only at the end of the sound as in line 4.

To our ears there often seems to be very little difference, especially in some parts of Germany, between a German *p* and *b;* the German seems to have no *b*. The German himself is not always quite sure of the difference and talks about a hard or soft *b*. My landlady in Leipzig handed in a bill in which I was charged for Gebäck instead of Gepäck. At the same time we often fail to distinguish a *p* as spoken by a Frenchman or an Italian from a *b;* they seem to have no *p*. A Hollander told me that he had always felt that the English way of pronouncing *p* and *t* or *k* was affectation and yet he never knew just what it was in the English sounds that offended him.

Figures 3, 4, 5, 6 show the record of the stops *b* and *p* as pronounced by an Italian and a German. In the Italian record for *b* we observe that the larynx vibrates throughout the en-

Fig. 3
Italian *b*. in bisca

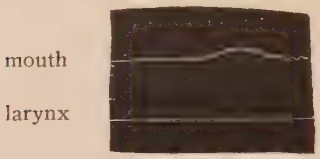

Fig. 4
German *b*. in bald

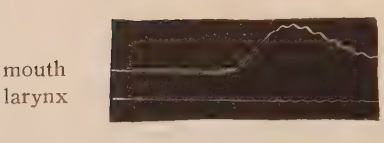

Fig. 5
Italian *p*: in più

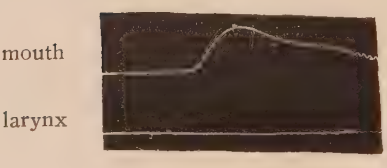

Fig. 6
German *p*. in pip

tire period of articulation, beginning before the explosion, while for the German pronunciation of the same sound, the vibration begins with the explosion. But the record for Italian *p* gives almost identical results as for German *b*, which explains why the Italian hears the German *b* as a *p*, while to the German ear, the Italian *p* is like a *b*. In the record for German *p* we see that there is a slight aspiration before the vowel sets in. This habit of following a *p*, *t* or *k* by a slight *h* is also shared in general by the English in the pronunciation of voiceless stops, which shows what the Hollander, who pronounces *p* and *t* practically in the same way as the Italian or Frenchman, dislikes in the English sounds.

These records give us information, it is true, of only one of the various factors which together produce the different acoustic effects of the French, German and English voiced and voiceless stops. There is also the difference in the lip pressure and the energy of articulation in general, as well as the difference in the place where the sounds are formed in the different languages. They must be investigated by means

of other instruments. The records do help us however to a perception of certain differences in the sounds, which it is hard for the unaided ear to distinguish, which however if not observed, call attention to the speaker's sounds as those of a foreigner. The first step in the correct pronunciation is taken when the ear has begun to *hear* the sounds accurately.

The kymograph record represents to the eye also the differing character of the various sounds, as can be seen in the following figures:

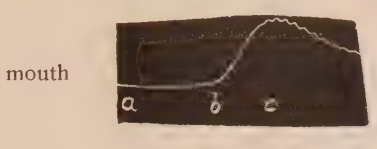

Fig. 7
t in two.

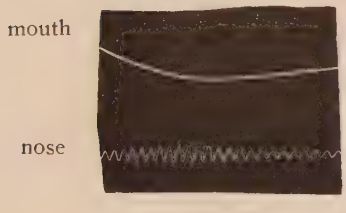

Fig. 8
n in ten.

Fig. 9
s in bisca

Fig. 7 shows the characteristic curve for a stop, the distance a—b representing the closure, b—c the explosion, while the falling line marks the beginning of the next sound. In the case of the corresponding nasal, however, as we see in Fig. 8, the explosion does not take place, but the air comes out through the nose, as is shown by the lower line, which represents the curve for the nose. A fricative gives a sinuous line, as in Fig. 9.

We can thus obtain information as to our habits of speech, often with very surprising and not always with pleasing results.

Fig. 10
pt in kept.

In Fig. 10 we see that the speaker's articulation was slovenly, as the final stop was not exploded. In Fig. 11, the record of *"two little kittens,"* we observe that the vocal chords vibrate throughout the whole word *little,* which was spoken with very slight stress, showing that the *t* was pronounced to all intents and purposes as a *d,* though the *t* in *kittens,* which received the main stress, was spoken without voice. Examination of the mouth-curve for *kittens* however fails to show the sharp rising line that we expect for a stop; a comparison with the corresponding curve for the nose shows that the *t,* for which the closure was made as usual, was exploded in the nose. That is, it was begun as *t* and finished as *n,* which is very easy to explain, for *t* and *n* are articulated practically in the same place. Such irregularities in pronunciation may perhaps throw some light on some of the changes that have taken place in language in the course of time, such as consonant shifting, the phenomena explained by Verner's Law, or the dropping of *b* after *m,* as in the pronunciation of *lamb.*

But one may have a knowledge of the individual sounds of a foreign language, and yet speak with a marked foreign accent, because one has no perception of the varying length of the sounds, nor of the sentence melody. The kymograph records give us a means for determining and presenting to the eye these peculiarities of the language in such a way that they are more effectively heard by the ear, and can therefore be more easily imitated.

Fig. 12 shows the difference in the length of single and double consonants in Italian. The *t* in *fato* is approximately one-third as long as the *t* in *fatto.*

Most difficult of all for the ear to distinguish is the sentence melody. Beginners in German almost invariably give the sentence: "Ich weiss es nicht," with the same intonation as the sentence: "I don't know," in spite of the fact that the instructor's intonation is different. The student's ear fails to perceive the difference in the sentence melody.

Fig. 11

Fig. 12—*fatto* and *fato*, spoken by an Italian.

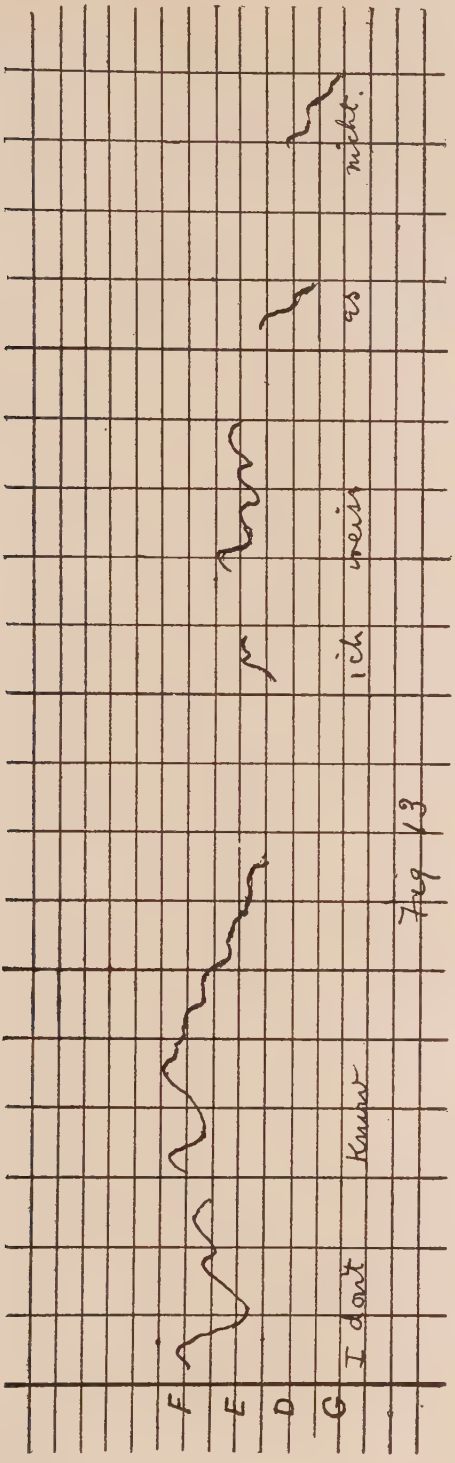

Fig 13

Fig. 13 shows intonation curves for: "I don't know," spoken by an American and: "Ich weiss es nicht," spoken by a German. Such intonation curves, especially when accompanied by gramophone records of the same sentences as spoken by a native, are most useful in learning the sentence melody of the language.

Kymographic records furnish also a means of control over phonetic transcriptions which have been made according to rules of pronunciation without sufficient consideration of the influence of the sounds upon each other. In Vietor's "Deutches Lesebuch in Lautschrift I," we find on page 90 the following transcriptions:

'ain hʊnt | tru:k | 'ain *f*tʏk flai*f* 'ɪm maul || 'ʊnt *f*vam da:mɪt | dʊrç 'ainən bax. ||

A transcription based on a kymograph record of the sentence, which was spoken by a German, reads as follows:

'ain^{h}ʊnt :^{h}ru :k^{h}'ain*f*tʏkflai*f*'ɪm :aul | 'ʊnt*f*vamda :mɪd :ʊrç'ainənbax.||

The sentence seems in the second transcription to resolve itself into two long words, or word groups. The *h* in *Hund,* we discover to be scarcely perceptible, while after the voiceless stops we find a tendency to slight aspiration. The final sound of *Hund* and the initial *t* of *trug* are spoken as one sound, as are the two *m*'s in *im Maul;* the *t* of *mit* is merged in the *d* of *durch,* a *d* of the variety of the stop shown in Fig. 4. If this were a French record it would, I suppose, be classified as *t.* A complete practical phonetic transcription would consist of the theoretical transcription, complemented by a transcription based on a kymograph record of the selection, and intonation curves.

Thus we see that while Experimental Phonetics has no immediate effect upon the pronunciation of the experimenter, he obtains an insight into the nature of speech sounds and how they influence each other and are related to the organs of speech, he gains a keenness of ear perception, so that his efforts to improve his own pronunciation have more rapid and more satisfactory results, while the drudgery of teaching pronunciation is transformed into a pleasure. The trained ear of the instructor detects quickly the difficulties causing the faulty pronunciation, and he can save the student's time by preventing his making mistakes which he would later have to correct; while the student, realizing that his organs of speech are but a wonderful musical instrument of which he must

Note.—In the usual spelling the sentence reads as follows:
Ein Hund trug ein Stück Fleisch im Maul, und schwamm damit durch einen Bach.

learn the technique, if he is to use it intelligently, becomes interested in his task and is willing to devote time and pains to it.

In these days we are demanding in all callings and professions efficient methods of work, and in my opinion, which is based on my experience, training in Experimental Phonetics adds to the efficiency of the teacher and student of language to an extent which quite justifies the time and exertion devoted to it. And while we can not all of us become experimental phoneticians, we can all of us make use of the facts revealed by the experiments, as far as they will lighten our labors in the learning or teaching of pronunciation.

THE SOCIALIZATION OF LANGUAGE STUDY IN THE JUNIOR HIGH SCHOOL

By Mary F. Lawson, El Reno, Oklahoma

Upon examination of numerous texts dealing with the study of language, from the language books used in the grades to High School and College texts, one learns that the point of view in the plan and purpose of teaching English is changing. The older texts seem to have as their aim the teaching of minute classifications of words and sentences, rules and definitions, drills on inflectional forms, parsing and syntax with little or no attempt to connect these with the learner's daily life and needs. The newer books seem to be getting at the subject in such a way as to answer the boy's too long unanswered query, "What's the use of studying grammar, anyhow?" This question and the inability to answer it in terms of aim or function may have been one factor in bringing about this change in point of view. But there are other factors. One is the failure—under the old plan—to accomplish the right use of language; another, a better understanding of the needs of the pupil and his relation to the community in which he lives. This change will mean, in the future, less formal and technical grammar and more appreciation of and care in the use of, language. But this result has not yet been fully effected. It is a long way from the Mount of Culture to the Plain of Social Service and the pedagogues who have climbed with such difficulty up the mountain feel that it is so good to be there that they want to build three tabernacles, one to theory, one to discipline, and one to technique, and stay there always. Some of them have really caught the vision and heard the voice, but they come down slowly and reluctantly with their minds still on what they have seen and heard. And, as of old, they are met at the foot of the mountain by the father whose child is torn by the devils—and the father is still praying mercy and help for his son—and the power to help is still in the hands of those who have been on the mountain—in this case the seers of the teaching profession.

In socializing the subject of Language study there must be taken into account both the felt and the unfelt need of the individual. The felt, definite, tangible need furnishes interest

and direct motive for acquiring the knowledge and skill in the use of language necessary for common intercourse and business success—the unfelt, more indefinite, less tangible, but quite as certain need furnishes the higher motive which, if comprehended, may drive toward a richer, fuller, deeper life. One who has this better motive understands and deals with language, not as a coarse tool with which he can force his ideas into other minds, but as a delicate musical instrument upon which he can play either "rag-time" or classical pieces to suit his audience. He will learn to play upon it according to his mood and will find it responding to his touch and becoming not alone a "vehicle of thought," but an interpreter of emotions and of the experiences of life. For while the words, like the pipes of the organ or the strings of the violin, have no meaning of their own, they may be made to express, says Lounsbury, the "thoughts and feelings, passions or prejudices, hopes and aspirations, aims in life whether high or low"—may, in short, reflect the character of the one who uses them. According to Chancellor, "words by their sounds may suggest time and travel, the democracy of death, the individualism of life, the feeling of peace, uncouthness, wantonness. Each message has the same weight, and is apparently of the same value; but examined, the one is gold, the other brass."

Genung says, "Language has its harmonies and discords, as well as its questions of correctness or error, to those whose ears are trained to hear them." "Two men," says Chancellor, "may speak the same truth with equal logic; but if one be an artist in phonics and the other not, we listen to the first alone. In their degrees, all men are skillful or ignorant in making and hearing the music of words. To Milton in poetry and to Webster in oratory, language was of organ-tones; to Shakespeare, it was orchestral. In Whitman, we hear the booming of the drum; in Wendell Phillips and in Tennyson, the melody of the violin."

It is not too much to expect that Junior High School boys and girls can be led to appreciate, in a measure at least, "their heritage in English speech with its wealth of words, its terseness, its directness, its force, and its capability of grace and refinement." It is difficult to do this and escape snobbery, but it can be done by evaluation. There are many obstacles in the path of the youth who seeks to know and use good language. That which he hears at home, in the street, on the playground, and often from the pulpit and the teacher's desk expresses an approximation, only, of the real thought and emotions which prompt speech. From the moving picture

and vaudeville, the base-ball diamond, newspaper and novel he gets superlatives and exclamations which indicate rather than express thought. It becomes a difficult task to lead him through this bewildering maze and make him feel it is worth while to be discriminating, to teach him to discern the idiom among slang, the rugged expression among the vulgar and uncouth ones, and at the same time cultivate in him an open mind toward changing values in English speech, to plant in him a desire, when he writes or talks, to have something more to say and a better way to say it than, "Believe me, we had some swell time," "Goodnight! ain't he a shark?" "For John's sake, I thought I would croak," etc., etc.

When boys and girls catch a glimpse of the richness, beauty and full possibilities of the proper understanding and use of our vigorous Americanized English they will earnestly desire to know how to handle it with skill and will be willing to take whatever steps are necessary to reach that end even though it lead through a text book in grammar. Therefore, in our socialized language, the motive for studying grammar is to be subordinated to the motive for the study of language—perhaps also to the study of literature which in many courses is included in the study of language. But, as Miss Cooley says, "Rules of grammar do not fashion speech, they record its crystallization. They never establish habits of correct usage; they may serve to make that usage more intelligent and self-directive. They throw light on the path of effort, but it is the effort, the determined effort, and the repeated effort that conquers."

Chancellor says, in speaking of grammar study, "It is the desire to follow the process by which one's fellow-men express themselves in language and to acquire skill in expressing one's self so accurately as to be understood by them with certainty. It is necessary to follow conventions in order to be understood when one says or hears anything said. It is social convention of several centuries that has constituted such a succession of words as grammar. To defy, to ignore, and not to know the conventions or principles of grammar are respectively immoral, insolent, and unfortunate. The ungrammatical may be intelligent and somewhat efficient; but they may never be wholly moral in the broadest sense of the term. They can never be, in any ordinary understanding of the term, scientific." Richard Grant White wrote as early as "the seventies" articles calling English a "grammarless language." He says, "Grammar concerns the forms of words and their dependent relations in the sentences. It is not a science, an art, or even a thing, it is not a record of usage or of so-called law; it

is the sum total of the usage and the so-called law which is recorded or discussed." He says further that grammar has died out of the English language "because the forms of words upon which it depended departed long ago. With a minimum of exceptions in pronouns, in one case of nouns, and a few persons and numbers of verbs, English words have but one form."

Whether we are willing to go as far as Mr. White on the one hand or Mr. Chancellor on the other, we are agreed that the enjoyment and usefulness of communication depend upon the comprehension and proper use of its chief vehicle—language. *How* to comprehend and use it is another matter, which will be discussed in a later paragraph. But we may agree with Mr. Reynolds who says, "English is not merely a matter of chasing stray commas and deformed syllables, it is a training in character, in imagination, in spiritual qualities. It should be vital, interesting, stimulating, but it will be only the veriest twaddle if it is not based on the accomplishment of a definite precisely realized purpose."

In making a program, therefore, while keeping the general purpose of a larger, more complete life before the pupil, there must be specific objects not impossible of attainment set before the pupil from day to day. In a socialized program these must not be *too* specific for the needs will vary from day to day, from year to year, and from class to class, and cannot be quite the same for two pupils in the same class except wherein their need is common. This will necessitate a knowledge of the individuals, the class and the community in which they live, before a definite program can be made. But, in general, all boys and girls need to know much about words—their present, accepted meanings, their changing values, their use, separately and in relation to other words. They need to know how to accent and pronounce properly all words they use orally and how to spell all words they use in writing. Each child must know how to add words to his vocabulary, for none of us get enough of them if we leave it to chance. Whatever of grammar is needed in correcting common and particular errors of speech, and in establishing habits of correct speech and writing should be included in the course. By the time a child has finished the Junior High School he should have had sufficient training in the English language to enable him to write a friendship letter that will convey some thought in a clear, pleasing manner; a family letter that will contain more than the state of his health and a request for money, one that he will not be ashamed to find one day treasured up in his mother's casket of precious things; a business letter that has

legibility, clearness, and point. He should be able to write up a concise, accurate report of any occurrence of importance to him or his group; to contribute simple, interesting and readable articles to the local or school newspaper; to keep, accurately and neatly, a secretary's or treasurer's record of such organizations as he may be interested in; to preside over a meeting of his club or society; to take part in discussion and debate upon questions within his range with or without previous preparation. He should be able to describe accurately and interestingly a person, place or thing either orally or in writing. He should know how to write invitations, formal or informal, and replies to both; to preside over social functions proper in his group; to converse with other boys and girls and with older members of his community on subjects of interest in a manner that will be pleasing to all. He should have ability to tell a story, orally or in writing, real or imaginary and, in fact, to do anything that calls for expression through language that will make him a happier, more useful member of the society in which he moves. Whatever is needed to reach this desired end will be included in the course. Gillette says, "Whatever factors of instruction and elements in subject-matter are essential for the attainment of quick apprehension and clear accurate expression by means of language should be found in the schools. Whatever does not directly give aid to this end in a very fundamental way should be eliminated."

In adapting any subject in the curriculum to social needs some questions arise. What parts of the old course shall be eliminated? What new material shall be added? How shall this be organized, and how presented?

Before deciding what shall be eliminated it is necessary to make a careful survey of the present situation. What is now taught? How much of this material meets the need of the child now and here? How much can he use hereafter? This will vary somewhat with the locality but in practically all schools the language course in the Seventh and Eighth grades is based upon a grammar text-book and in the Ninth grade upon a text-book in rhetoric and composition. While some attempts have been made to revise the text-books to meet growing demands for something more directly serviceable—practically all of these follow quite closely the old plan of definition, illustration, rule, analysis, drill on forms, parsing. Usually some explanation precedes or follows the definition or rule, but in the main it results in the forming of a new type of definition, a little more complex and involved than the old one. In some texts, the revision results, merely, in the rear-

rangement of old material. Grammarians seem afraid to throw away anything. This is not strange, for language study, though the oldest of school subjects is the last to catch the spirit of modern education. Miss Cooley says, "It has had more centuries of fixation to undo than manual training, nature study, and the graphic arts. Its sins were old enough to be antiquities and therefore likely to command that traditional reverence which prevents their correction through rational standards of criticism."

"Prove all things, hold fast to that which is good," is a good rule to follow in arranging this or any other course. Gillette says, "Language is in the nature of a social device to get work done. The design should be to get the largest facility and skill in use in the shortest possible time (as with tools and machines). Expedients are not set up with a view of prolonging the apprenticeship."

While the course must vary somewhat to meet the needs of pupils in different localities and in different classes in the same community and of classes in different years, some general suggestions based upon experience may be given in regard to selecting material to be retained or eliminated.

Eliminate everything in formal grammar that has been studied for form's sake, and leave whatever is of present value to the class in hand and to the individuals of that class. What this is and how much is to be used cannot be known in advance, except in a general way, but we may safely say there would be omitted much of the parsing, many pages of analysis and diagrams, discussions of hair splitting distinctions, much of conjugation, especially of subjunctive and potential moods, much of the quibbling over changing forms. Eliminate, too, such forms of composition as deal with far-away, indefinite or involved subjects. Such are of little interest and doubtful value. Omit the close analysis of literature. This destroys the feeling of wholeness and the emotional value pupils might get. Use literature as we are using the best music, for appreciation rather than dissection.

There should be added from time to time such material as seems best fitted to meet the need as it arises; for example, if the most prevalent errors in the school and community are, "I have went," "I have saw," "He done it," etc., it is obvious that much attention should be given the verb, and work should never stop on this phase of word study until habits of correct speech are formed. Opportunities for development of expression in a social way should be given in school. This can be done in many ways especially by teaching of language incidentally. Language training cannot well be made a thing

apart from other subjects in school or from life on the outside. If it is effective it must train the child to express himself with ease on any subject he is interested in and in any situation both in and out of school.

Perhaps the best means of training is through constructive language work. This should always "connect up" with the pupil's life and interests. Davis, in his "Vocational and Moral Guidance" suggests a series of topics for each year with a definite purpose in view for each theme, bearing on the general theme for the year—

For Seventh Grade. Aim:—Vocational Ambition

My favorite books. Purpose: to draw out pupil's interest and to assist in suggesting reading.

My experiences in earning money. Purpose: to draw out ideas regarding work.

My hero, or heroine. Purpose: to show pupil's ideal of character. Other subjects suggested are:

My favorite games.
My happiest day.
Some things worth while that boys (or girls) have done.
The kind of home I should like to have.
The kind of man I should like to be.
What I will do when I grow up.
The bravest deed I ever saw, etc., etc.

For Eighth Grade. Aim:—The Value of Education

Hunting a job. Purpose: to place before class the experience of one who has tried to find a job.

What I could do if I left school now. Purpose: to get ideas of earning ability.

What some adults say about the need of education to-day. Purpose: to dispel the notion that because others have succeeded all can do so without special study. Other subjects are:

What are "blind alley" occupations? Some I have known.
What are local opportunities for special training?
What is an education worth in money?
What is an education worth in satisfactory living?

An account of visit to store or factory, with special observation of occupation of employees.

Undesirable and pleasant ways of earning money.

An imaginary or real story on—A delivery boy. A messenger boy. A telephone girl, etc.

Write application for position in answer to an advertisement in a paper, etc.

For Ninth Grade. Aim:—Character and Self-Analysis

History of a school day. Purpose: to show how time is spent.

How I prepare my history (or any other) lesson.
How I read a book.
My inheritance.
My health.
Am I a leader or a follower? etc., etc.

For oral discussion or debate:

Should one pupil report another for cheating? For damaging the building? For bullying a smaller pupil? For stealing from the cloakroom? etc. Conduct trials on charges—smoking cigarettes on school ground or up town. Playing marbles for keeps. Marking on walls. Plagiarizing, etc.

These, it will be seen, are of double value as subjects, but we must be careful not to carry this plan beyond the point of interest.

"Since the function of knowledge is to articulate the individual with his environment," says Weeks, "it is evident that what is valuable knowledge to one may be worthless knowledge to another, except so far as all individuals have needs in common. The values of knowledge are ever relative to the individual himself. The question of functional value of knowledge is, then, largely a personal one. To evaluate knowledge for the individual requires acquaintance with the relations which he will sustain to his environment. What will he do during the rest of his life? Where will he live? What are his interests? We have not only the individual with his expectations and traits to deal with but animate and inanimate nature and a fluid social environment. Collision and contact with a complex environment precipitates difficulties, and hour by hour maladjustments threaten. Correspondence with environment, life itself, depends upon the presence of knowledge at points of need." So this constructive language work as well as our grammar teaching must meet needs or be so much wasted time and energy. "In the administration of a curriculum the teacher is of great importance. The interpolation of information by the teacher and especially the emphasizing of the more valuable points in the lesson are activities taking precedence over formal outlines. Higher efficiency in the curriculum depends in no small degree upon the resourcefulness, initiative, breadth of view and experience of the teacher" (Weeks).

In presenting this program the first thing necessary is to know what is in the minds of those who are to be taught the principles and use of language. This does not mean how many rules of grammar they know, primarily, but how well can they express themselves and what is their attitude. A list of errors should be made and help given as needed. This will be largely individual but many errors are "epidemic" and may be classified under 1st, case forms; 2nd, verb forms; 3rd, will and shall, may and can, etc.; 4th, like, for as and as if; 5th, agreement of subject and verb; 6th, agreement of pronoun with antecedent; 7th, use of adjective for adverb and *vice versa;* 8th, tense forms, and a few others. These should be drilled and the correct form used as often as possible

until the habit is fixed. If interest is aroused children will help each other to get correct forms. In getting control of word values the study of synonyms is quite helpful. It tends to make the pupil careful to get the exact word for the particular thing he wishes to say for he will soon learn that no two words have exactly the same value in a certain situation.

McMurry thinks we should have no formal recitation in grammar; others think all language should be taught incidentally. While no time should be set apart for the study of formal grammar as such, and while very much of language training must be done incidentally, it is important enough to have a full period each day for some sort of practice in expression such as pupils cannot get incidental to other subjects.

O'Shea says, "A child begins to learn words effectively only when he commences to use them. Use is at once the test of understanding, and the motive for perfecting the understanding of words." Word study is a very important part of language training but the teacher must be very wise in leading her pupils in word study. She may interest and inspire them, or tire and disgust them. Children, like grown-ups, have very limited vocabularies. These can be enlarged, corrected and enriched by care, patience and wisdom. According to Hendric, "the English language leads a dissolute life, and welcomes any word that comes its way. This catholicity is its very strength. The danger may lie in the splitting up of the language into dialects and it is the business of scholarship to use every effort to avoid this. But in doing so it must be prepared to make compromises, and to welcome expressions which our grandfathers would have rejected." Our language is a living, growing thing, hence of changing values. In studying meanings pupils learn more from the context in reading and from hearing words in their relation to other words than from formal dictionary definitions. Much of word study may be incidental.

In teaching the use of language in conversation, discussion and debate, real situations and opportunities for these conversations, etc., must be created. Topics of real interest should be discussed and the discussions, especially the conversational lessons, should be made as informal as possible. Organizations, such as literary societies, may be formed as the interest of the school group demands and these will give opportunity for many modes of expression. Groups may entertain other groups, seeking voluntarily advice from a sympathetic teacher as to manner of presiding over these functions. Pupils are stimulated in relating narratives or writing them by being allowed to write original stories, a chapter a week; or a composite

story, each member of the class writing a chapter. Careful selection of good descriptions and character sketches will set an ideal before them in this regard. It will not lead pupils to imitate so much as it will give them an idea of what description is—and so few of them have it. Newspapers solicit worthy articles from our young people and that in itself furnishes motive enough for excellent work in this direction. Real letters should be written to real people, both the letter and the answer now and then being brought to class for criticism. The aim should be clearness of expression, the supposition being that there is something to express. Contrasts between well written letters and illegible, ambiguous letters serve as good illustrative material. The teacher should never forget that grammatical accuracy is taught better by example than precept, indirectly rather than directly. But the teacher must not be a snob, nor has she the right to lead her pupils to be snobs. For that reason she must be very tolerant of their mistakes if she wishes them to be natural with her. She should try to get them to use correct speech everywhere and not in the class room only. She should seek to build up a feeling that it is as expressive to use the right form if they get used to it. She should seek to cultivate, too, the motive that is born of a "desire to enter into the real substantial, spiritual life of humanity, to know the divine in man, to feel and to express the soul," says Chancellor. "The unlettered child gazes at the printed word and feels that it conceals yet advertises a world at once mysterious to himself and precious to his elders; and altogether desirable as indeed it is. In his earliest infancy, he had listened with equal eagerness to the sounds of human voices. In his latest age, his last conscious desire is the desire to know the meaning of words, to find the thought that others are expressing in them, and to express his own thought. He who acquires words afterwards thinks in them forever. They are the links of thought."

THE TEACHER'S HUMAN FRAILTIES

By Garry C. Myers, Brooklyn Training School for Teachers

The large number of "oughts" and "don'ts" that go to make up much of the literature on school management have evidently presupposed certain frailties of human nature. Perhaps it would be of interest to the teacher if some of these common human tendencies that have provoked the precepts of the expert pedagogue were pointed out.

Original nature impels one to try to please. No doubt this impulse is egoistic, for the response of the pleased rewards the pleaser quite liberally in terms of satisfaction to the latter. Forthwith, the teacher finds herself inclined to try to please the pupil. This desire to please impels the teacher to accept approvingly from pupils incomplete, confused, vague and even incorrect responses. While the teacher should encourage answers even if the response is incorrect, the evil comes when she leaves the reciter as well as the rest of the class under the impression that a wrong, or partly wrong, answer is wholly satisfactory. The average teacher is especially apt to give undue credit for answers that are correct units of the general subject in question but which are not the correct answers to the questions asked. If what is learned is to be used in life an answer correct in the situation but wrongly given in response to another and immediate situation may be worse than no answer. In and of itself any wrong answer is worse than no answer. However a wrong response which leads ultimately to other responses that are correct may prove very fruitful. In any event the wrong answer is worth while to the pupil only when he knows its real value. If the teacher is to serve her purpose she will constantly warn the pupil against confusion and will encourage clear-cut and definite answers to definite questions. The teacher's human tendency, however, is to encourage in the pupil laxity, laziness, and superficiality and to discourage zeal for thoroughness and exactness. Morally this tendency is bad in a more specific way. It encourages the pupil to deceive, to bluff, and to resort to all kinds of trickery in order to "impress" the teacher and has an ill effect upon the entire class.

This same good naturedness of the teacher makes her put emphasis upon quantity rather than quality. The pupil, con-

sequently, is encouraged to resort to mere platitudes and to develop general habits of verbosity. The glib pupil, therefore, who can chain cleverly a group of words together on short notice and with an imposing confidence, wins undue recognition from the teacher, and behind his cleverness, he shields his laziness and often blights his own possibilities; whereas the reserved pupil, slow of speech, is often underestimated.

No less pernicious is the fallacy of quantity in the teacher's estimate of written work. This too is elicited by the teacher's wish to please, by way of recognizing the pupil's industry and effort. Encouraged by this human frailty the examiner finds himself assigning grades often on the quantitative basis. Especially is this true where the teacher is hard pressed for time. Sufficient evidence of this fact is the testimony of pupils who have taken examinations under state and city examiners. They say, and their teachers often urged them, that it pays generally to write much regardless of the facts presented. While other factors function here, the desire to please by setting high values upon amount of work is quite fundamental.

Moreover, this desire to please prevents the teacher from fixing standards high enough to goad the pupil to his best. Many therefore, are passed and promoted who ought to be left behind and a number of the brighter children do mediocre work because they know it will be accepted.

In line with this, so much is the "wish the father of the thought," the good-natured teacher unconsciously assigns undue merits to the work of pupils whose personalities have appealed to her. In making up the grades the teacher tends vividly to observe, and to remember best those things which are most desirable about the more appealing pupils. Likewise she tends to ignore and to forget some of the best productions of the less appealing or repellant pupils. Most teachers use tact enough not to show openly who are their favorites and dislikes; but that teacher is exceptional who does not unconsciously, at least, react toward the pupils in terms of her personal preferences. Her preferred implicit judgments seek expression and inevitably her affective attitudes are mighty factors in determining the pupil's grades.

The teacher more or less readily forms early general attitudes toward a pupil's quality of work, which attitudes tend to persist so as to weigh heavily in her succeeding estimates. Aware of this type of human frailty in certain teachers, some students, especially in secondary schools and colleges, will struggle very diligently at the beginning of a school term to

establish a reputation with the teacher; then they will loafingly enjoy, in safety, this reputation for the remainder of the term. No doubt, if a teacher were to grade written work without knowing who the author of each paper is, the grades assigned would be quite different from what they really are.

In various ways the pupil learns to take advantage of the teacher's human frailties; even long before he enters school, he knows the force of "good will" in eliciting from others judgments and responses in his favor. Thus in proportion to his ingenuity to promote his own best interests, the pupil, in addition to his natural appeals, invents situations whereby the teacher will feel obliged to try to please him. The same sense of obligation which impels the housewife to prefer a certain merchant's goods because he has obliged her by some small but obvious favors, or which motivates the whole *modus operandi* of the spoils system in politics, is active in determining the relation of the teacher to the pupil. Furthermore, the teacher, matters not how modest, more or less is pleased by flattery. The type of pupil above referred to learns how to use this instrument. He may do it out of pure motive merely to please the teacher, but incidentally human nature assures reward for his contribution. In practically every class room there are pupils who strive purposely to appeal to the teacher's sense of obligation. Even children far down the grades present to the teacher flowers and other gifts with the idea not of immediate reward but to please the teacher so that her general attitude toward them will be favorable. In schools of higher learning it is a fact significant that the other members react disapprovingly toward that pupil who, in their minds, gives obvious evidence of his attempt to win the teacher's favor. Such a student may seek every opportunity to exaggerate the apparent effort he has expended in preparation, by asking numerous questions in class, or by frequently lingering behind his classmates at the close of recitations to have conferences with the teacher. All this as the rest of the class view it is designed to win the approbation of the teacher. Some students who have sincere zeal to learn, are, because of this strong disapproval, often wrongly judged. However, those who are insincere find the average teacher an easy prey since the questioning attitude and voluntary seeking for information are two things most sought for by the teacher. Some such hypocritical students, however, are so untactful that not only their classmates but the teacher as well thereby is repelled. Others much more politic may both keep within the good graces of their classmates and win from the teacher general approval which will count. Not all teachers are ready

victims of this form of imposition, but the most judicious teacher is hardly quite immune from all such inroads upon her kind good-naturedness.

In its various forms the desire to please factors in weakening the teacher's discipline. The best teachers are often inconsistent at least in some details. Little ills emphasized by the teacher as very flagrant at one time may be almost entirely ignored by her at another time. Likewise some students who violate an important rule she can discipline without hesitancy while for other students' ills she courts oblivion. To show partiality may hurt her conscience, but her desire to please most those she likes best and the dread of eliciting their displeasure offers strong inducements to the teacher to be inconsistent. Her total judgments guided chiefly by her feelings, then, make inconsistency for the time expedient.

Let the reader here remember that the teacher's tendency to try to please the pupil as well as the pupil's tendency to try to please the teacher, primarily has selfish motives. The pupil's coveted reward is in tangible returns that will promote his general interests; the teacher's lies in her immediate pleasure in the mere responses of pleased pupils. Therefore while the teacher's general good-naturedness expressed in her ability to elicit pleasure-filled responses is one of the most sought for traits of personality, it has some destructive tendencies.

Stimulated by her desire for selfish satisfaction which in turn the pupil's approbation helps intensify, the teacher tends to measure values by the standard "here and now." Remote and permanent ends are lost sight of. In general class management the teacher's tendency to seek immediate pleasure and to seek the path of least resistance is responsible for the proverbial "thief of time;" for failure to perform at once the many little things that demand immediate attention, the grading and the prompt return of examination papers, for example, long past the time when their return would be of real advantage to the pupil; of postponing to prepare the lesson as provided by the lesson plan, of neglecting even to provide a lesson plan; in short human nature fain would have each day and hour and moment seek its own salvation.

Furthermore the teacher tends to check up her results in terms of immediate responses. The higher the activity of the class, therefore, the greater is the efficiency of the teacher. Consequently that teacher considered best, as measured by immediate returns, often over-stimulates the children and thereby encourages mechanical mastery of empty words and calls forth undue expenditure of nervous energy.

By a large majority of supervisors and principals, that teacher perhaps who can, by putting a question, call nearly all the class to stand on tip-toe and to brandish their hands in the air in eagerness to give the answer, is graded foremost in efficiency. Her immediate products may be excellent but how about the ultimate welfare of the overstimulated child? What must the pulse and respiration be? Suppose such eager children constantly keyed to the highest pitch, have this teacher for five or six successive periods for five successive days for ten successive months. They may have a rather high degree of parrot mastery but with an oversensitive nervous system they can hardly have the highest degree of self-mastery. Needless to say that such children can not have a chance for developed habits of deliberation and reflective thinking. The few children who would not respond to these excitations would become less sensitive to stimulation and more sensitive to their own inferiority. The conscientious teacher is a living embodiment of this high pitch of activity. She by her tendency to let no moment pass unfilled by some high flow of neural energy leads the pupil off. Thus she is apt to expend far too much energy, to speak too loudly, to gesture wildly and to become fretful. James's gospel of relaxation for the teacher first, then put in practice where the child is involved, would bring added happiness and increased ultimate efficiency.

A good many children need repose more than activity. Some children should be encouraged to take a nap in school and some should be compelled to retire to a quiet room. Rest rooms for some time have been in evidence in colleges and many high schools but they are somewhat of a novelty in the grades. It is assumed that children need no quietness, that their rest is in activity. Hence the human element in the teacher that makes her strive to elicit quick responses and very high activity may lead to undesirable consequences if not sanely weighed and reconsidered.

Correlative with the above is the teacher's feeling that the child should everlastingly be busy even if not doing something worth while, just to develop the habit of industry and to keep him out of mischief. With this impulse the teacher tends to assign long tasks to be performed often very blindly, to require long essays which become mere platitudes, and much general written work little of which is corrected. Think of all the work the average pupil has to do whether right or wrong just to satisfy the dictum, diligence! One of the most wasteful aspects of education now is the teaching of wrong habits by assigning written work and by learning things en-

tirely wrong all because the teacher's conscience tells her "children should be busy."

The desire for immediate response prompts the teacher to call most frequently upon the brighter pupils to recite. They naturally want to recite because they know how, and to recite permits them to display their superiority. The duller pupils prefer to be silent because they do not know, and to be silent permits them to hide their inferiority. Often too when the pupil most needs the opportunity to think alone, the teacher, in impatience, will supply the information. The pupil generally does not have sufficient time to think because the teacher robs him by calling on another pupil who she knows can answer, by answering the question herself, or by asking more detailed or leading questions. This is not always mere impatience of the teacher; frequently it is but a feeling that there must be no pause, that answers must be given quickly. Thus fearful of a lull, the teacher by a series of suggestive questions may lead the pupil quite away from the original question and let it go unanswered. The interrupting, oft irrelevant, and too frequent accompanying remarks by the teacher prove often serious distractions to the pupil. A fretful teacher impatient with what the pupil gives will frequently distract the attention of the entire class by giving vent to her feelings of anger or dissatisfaction. Likewise jovial good-natured teachers by injecting incongruous remarks and relating irrelevant anecdotes for the mere purpose of entertaining often scatter the attention of the pupils. In short the teacher is constrained to satisfy her feelings first, to supply cheerfully the child's immediate wants rather than to struggle to create in the child the proper wants. With the curriculum more or less final the chances of the teacher's service in creating proper wants are limited, and because of her human frailties, her readiness to fall a prey to instant approbation, she finds herself often teaching things to please rather than to fit the learner for real life and to entertain rather than to teach.

Not only does the teacher tend to prompt and to interrupt the pupil's recitation but she has strong propensity to elaborate upon the answers that the pupil gives, to consider no answer complete without her polish. Her whole tendency at talking overmuch is evoked principally by her pleasure in hearing herself speak and in showing her superiority over her auditors by telling something they do not know. This frailty often leads the teacher to talk about much wholly off the subject at hand, to wander off in recital of personal experiences and to repetition of stories and anecdotes that have no immediate purpose. Generally these diversions become more

attractive than the real subject matter at hand; sometimes they may be also more profitable. However the increased attention of the auditors at their recital stimulates the teacher to indulge with profligacy. Pupils take advantage of the teacher peculiarly afflicted with this frailty and stimulate it by forced applause and by irrelevant questions. How many a clever student has saved himself from failure in a recitation by asking questions of the teacher so as to forestall her questions and otherwise to consume the time!

Akin to her elaborative attitude is the teacher's exaggerated consciousness of overawing power and her belief that she must seem to be very scholarly. This leads her to exposure of her ignorance, to pretenses, to misinterpretations and to mere bluff. Conscious too of her rich experience in contrast with the child's, the teacher is apt to put too much faith in her ability to meet all new situations. She often deceives herself that she has mastered her subject matter when only meagerly acquainted with it. Woe unto the child whose teacher has this tendency pronounced! Such a teacher no longer stimulates but teaches continuously the same facts in the same way, term after term, and with the child, becomes a parrot follower of the text.

This shortsightedness, this "here and now" impulse, seems to be a vital factor of all the human frailties thus far enumerated. Especially is this true of the desire to please. What pleases at one time may not please at some future time. Rather it may prove an ultimate displeasure. The whole gamut of choice and ideals that go to make up individual character and to promote the future welfare of the race consists in frequent choosings of that which will bring future rather than present pleasure. It does not follow, however, that present pleasing is pernicious always; only when immediate pleasure forestalls a more remote and lasting pleasure is the frailty "to please" a menace. Some teachers have the happy faculty of making most things that are remotely good and pleasant a means to please immediately. Welcome to such teachers! It is significant however, that so many teachers, especially in secondary schools and colleges, who seemed never to try, nor to have the gift to please their pupils, have been looked upon by those same pupils in later life as the teachers who have meant most for their welfare and their consequent efficient happiness. No less obvious is this shortsightedness in the other human frailties. Indeed all have been discussed with this factor presupposed.

These and other "human frailties" of the teacher entrench themselves with age and tend to become more powerful as

the teacher's concepts and modes of thought and speech and actions become more fixed. To think of things in the one same way, to ask questions and to respond in a more or less stereotyped manner, and to meet every situation and to proceed with each successive step in the program, mechanically, is a most natural tendency of a teacher. Novelty, which is perhaps the most essential agent of good teaching finds no natural friendship in the human frailties of the teacher. Sometimes by each successive word the weary college lad will anticipate the chapel prayer of the college president. The set phrases and mannerisms of the professors, the ease with which they can be "fooled," become the common source for jest in the college neighborhood, and certainly the high school and grade teachers have likewise their idiosyncrasies. Perhaps the average teacher fails to appreciate to what degree her shortcomings are ridiculed by her pupils. This is especially true in the upper elementary and secondary grade. The adolescent seems to lead in making most capital for his own selfish purposes out of these human frailties of the teacher. Unfortunately the teacher is the last to be aware of her human ills and of her fossilized and worn-out usages. Therefore unless constantly stimulated by the association of other people and by the diversity of thought and expression from the platform and the pen and by a constant search for wider knowledge, the teacher, burdened by these human frailties, is doomed to lessen in efficiency.

Not only do the teacher's concepts and habits of procedure tend to petrify but probably the average teacher rarely reaches to the level of the child. Examination of school books by Thorndike and others, Hall's study of the contents of children's minds on entering school and studies in incidental memory, in observation, and in testimony of children by the writer and many others emphasize the fact that in spite of much warning, most teachers and text-book writers have not had the child's viewpoint, but have presented subject matter to him frequently in total ignorance of his apperceptive basis.

Since all phases of one's personality are least obvious to the possessor thereby making difficult any remedies of one's deficiencies, every teacher can ill afford not to be cognizant of the universal frailties of humankind, for to know about them is the first step toward their remedy.

WHAT WE OWE TO THE TREE-LIFE OF OUR APE-LIKE ANCESTORS

By G. Stanley Hall

I. The progress from quadrupedal to bipedal locomotion and from quadrumanal to bimanal manipulation, which produced the order of primates, including monkeys and man, was very slow. It was marked by many stages, required a long period of time, and involved many profound changes of both physical and mental constitution. It began necessarily with the plantigrades, who walk on a full open palm or sole and not with digitigrades or ungulates, who walk upon one or several toes. The former in locomotion come into closer *rapport* with the ground or with their basis of support. This gives a sympathetic sense of thermal and haptic differences, evokes a greater variety of motor reactions and results in greater discrimination in placing the sensitive broad surface of the feet than occurs in hoofed or toe-walking beasts. The psychomotor centers are brought nearer to a reality that may change with every step. Injury is easier unless the feet are put down with discretion and thus foot and limb consciousness is increased. Hence, plantigrades as a rule have more freedom and wider range of limb movement and can touch and scratch nearly the entire surface of their own body and receive impressions from it. Feet or hands can touch and feel each other, and this many writers regard as an important factor in the progressive consciousness of self, because in this act each part is at the same time subject and object and is both active and passive to the other. Even the Ursidae illustrate this principle with their sensitive feet, great plasticity and flexibility of limb. Thus in the animal world also mobility of parts and discriminative sensibility go together.

All apes, too, and even lemurs, develop at their digital extremities nails instead of claws, although the former, like those of infants, are more curved. The nails of idiots often show reversionary traits. Normal infants may show anger by scratching. Rodents climb by claws instead of by grasping and some children still show a psychophysic mode of this transition by peculiar finger-nail consciousness which prompts them to bite and pull their nails and to scratch rough substances persistently as if their psychoneural system had not

yet adjusted to the loss of claws. The rather copious literature upon this subject shows also that not only defectives but patients suffering from certain specific diseases may exhibit abnormalities in the form or texture of the nails that suggest the claws in which the digits once ended. With growing power of prehension these were superseded and their present spatulate form became more serviceable.

Tree climbing by grasping instead of with claws developed slowly, and this marked the first and probably the chief stage by which the erect position was assumed and became habitual. It was preluded by some of the early dinosaurs and a high degree of it is seen in the marsupials. In both of these the fore limbs became more or less manipulative, but as they were freed from the work of locomotion, they found so little else to do that they became small, short and feeble, while in the rodents, in which both functions were more or less combined, they remained relatively larger. To climb by prehension, the fore limbs grew long to grasp large trunks and to give a far reach. Thus greater security aloft was afforded. The tertiary forests were rank and tropical, even in the north, and although many of the trees were deciduous, a large proportion of them were not so and many bore tempting crops of fruits and nuts. A far larger portion of the earth's surface than now was woodland and much of this contained not only undergrowth, but thick and heavy branches and foliage above so that the ground was dark. The light invited the attention of terrestrial creatures upward, and some forests presented the somewhat characteristic tropical double roof of lower and higher branches which the modern great apes, especially the ourangs, love so well. Even when trees were not in marshy ground, they offered protection from the numerous and often large and savage beasts of prey that prowled by day and night below. The density of arboreal growth offered also easy modes of transit for long distances, by passing from tree to tree in all directions and at different altitudes. Such an advantageous mode of life as was thus offered was sure to be taken full advantage of by natural selection. Thus reaching upward for food, supporting the body on the hind limbs by grasping higher and the escape from dangers below, all invited upward, and so the trees became tenanted by climbers as well as by flyers.

Although other animals climb, none are so completely adapted for permanent arboreal life as are monkeys and apes. The sloths are aberrant and exceptional in their class and most rodents are quite as much at home on the ground as in trees. Apes of purely dendritic habits must not only seize objects

and pick fruit and nuts, but must constantly lift their own bodies, which therefore became small. The forearms grew and acquired in the trees the power to rotate outwardly or laterally as those of quadrupeds cannot do. The shoulder blades became turned almost at right angles into the same plane instead of being parallel. Supination also was developed. Thus, the hand and arm in all their higher powers were in a sense tree-made. Again, locomotion in tree tops was no longer by regularly rhythmic steps, one just like another, which therefore readily became automatic, but on the forest tops there must be incessant new adjustments with perhaps no two movements alike but all under the guidance of the eye and of attention, so that the hand and arm here became the servants of the brain. Ourangs advance several miles an hour from tree to tree, grasping now with hands, now with feet, reaching far or near, high or low, seizing large or small branches or grasping several tiny ones bunched together, now swinging and now, though rarely, slightly leaping, with body now erect, now horizontal. Every movement must be made with deliberation, circumspection and incessant foresight as to which branch affords at its far end the best connection with the next tree, and many monkeys use along with four hands a prehensile tail for still greater security, and a few swing themselves and leap through considerable spaces, even jumping on a limb till they can use its spring to aid in the propulsion of their body, perhaps even carrying fruit or their young at the same time.

Arboreal life too involves the constant danger of falling, unknown to dwellers on earth or in the sea. This developed a unique gravity sense and the feeling of an abyss always yawning below. There is an inexorable penalty for error or carelessness, a stimulus that does not exist in any other form of life.

Progressive adaptation of structure and psyche and perhaps long ages of elimination of the fallers, lightness of body, adjustments that make falls from considerable heights harmless, and fixed habits of caution, have reduced danger from this source to an almost vanishing point. Animals that walk on *terra firma* have no sense of anything beneath them upon which they look down, so that the altitude psychosis is an attitude of soul that gives a spectator from above a knowledge at close hand of foes below, coupled with a sense of safety from attack approximating that of birds. On the ground there are few or no dangers from below but only on the same plane or above, but for denizens of trees danger also lurks below. A great variety of interests and objects are also be-

neath. A settled habit of directing attention downward is a trait which has just the persistency and survival power characteristic of paleo-psychic elements. Once well down from the trees, consciousness would not need to be occupied with what was beneath, but the psychoneural vestiges of dendritic life would be found only in faint pervasive predispositions, far below the horizon of consciousness. To be interested in what is under our feet, to be semi-credulous of fancies about things subterranean, such as suggestions of caverns, currents, veins, passages, gnomes, vulcanites, houses of the dead, prowling and inimical ghosts, Cerberus, dragons, imps, devils and other monsters of Hades, make the solid earth somewhat more permeable to fancy, and fear is more likely to be oriented downward as are both curiosity and awe. Mysterious noises and voices would under some circumstances be more likely to be instinctively located in that direction whence yawns the great pit into which the soul may fall at death. The roots as well as the branches of Ygdrasil, the universe tree, are full of moving living creatures that run freely up and down them. The curve of phyletic memory is asymptotic and nothing once well stamped upon the soul is ever utterly lost. Thus the mythopoetic imagination of man is more plastic to-day because of the ancient interlude of tree life, and the very earth is less hard and impenetrable to thought and feeling because of it. The apes, when they first came to earth, lived in part on roots and tubers, and who shall say that even the *quaesita* of geology and our zest to know the roots of things are not still subtly favored by the airy life of our forebears aloft which predisposed the soul to conceive the universe as more laminated than it would otherwise have been?

Still other simian traits are seen in the fact that while the adult trunk is but three and a half times the length of that of the child at birth, the legs quintuple their length. When the foetus is about 8½ inches long, its arms reach to its knees. The infant, too, grasps with its fingers pressing its palms without opposing the thumbs, using its hand like a hook as do the apes. The spine has not yet attained the double curvature characteristic of man. Some months before birth it has a so-called lanugo hair over nearly its entire body, and not only this but most of the body hairs that survive in the adult human body have the same direction as among apes. The infant's flat nose and pouched cheek, its power of humeral torsion, its scapular index and possibly its dread of water, are still suggestive of this stage of life.

Our feet are still arched from early impact with the

branches, the wrinkles in them at birth resembling those of apes. Adults still wear both heel and sole of their shoes fastest on the outer side, and our children tend to be bow-legged as were apes from much climbing and have undeveloped simian calves. Infants often curl their smaller toes inward in their first efforts to walk and can separate and bend the toes with relative independence. The legs are still semi-flexed and relatively shorter and weaker than the arms, and soon after birth the latter can in many cases support the whole body for a minute or two by clinging to a cane, a power that is soon lost. Babies clutch hairy objects, like the father's beard, with a grip still reminiscent of that which clung to the shaggy sides of parents when not to do so might cause the infants to fall to their death. They often climb with great avidity, *e. g.,* upstairs before they can walk, and occasionally creep on their knuckles in true simian-wise. They have a strange wild horror of falling almost from birth, and if lifted up and down, flare their arms and clench with their hands. Even boys show a strange passion for nuts and tree fruits, often climbing to dangerous heights for them, and their appetite, as we shall see, has striking simian analogues. They love to climb on and along fearsome places, to walk on beams, or logs, to balance themselves in so doing perhaps over streams or chasms, with a love of high places and an immunity alike astonishing to adults. Among all races and in all climes, infants are hushed and soothed by rocking, as if sleep were the sinking back into an earlier stage of life in which all post-arboreal acquisitions were eliminated. All the lullabies of the world suggest undulatory movements or rockabyes in the tree tops. The wind to many anemotropic souls still suggests the tossing of billows or branches, and who shall say that even the swing, the teeter, the baby-jumper, the use of the swinging rings in the gymnasium, the joy of sailing and yachting and the sense of rhythm itself are devoid of all survivals of this ancient mode of life?

Tree life was indeed a free life. Every branch was an open road prepared by nature and every trunk or stem invited up and down; every fork in a limb involved a choice. Here, a bird's nest was found with eggs which all apes know how to eat without losing their content; or with young, which gave a rare morsel of animal food. Beneath the shaggy bark were savory insects which could be had by scratching or picking in which apes excelled, a habit which still survives in the flocculation of insane or dying men. There was occasional honey with little danger from stings, because nature had provided hairy bee-weirs; a great variety of buds, wild fruits,

edible bark and leaves which could satisfy the strange pithecoid appetite for bitters, acids and astringents and which enjoys and thrives upon green fruit still tempting to boys. Occasionally, birds were caught in nests while defending their young, and were plucked with skill and greedily eaten. Positions were easily found which shed rain or sheltered from the winds, and broad supports were sometimes made broader by twigs, platforms or nests. All apes can cling and sleep at the same time as do birds. Occasionally there was descent to the ground and perhaps short excursions over it for exploration and play. No kind of life can well be imagined more tempting for social sport and no creatures are so frolicsome. There was also great immunity from danger, for almost no creature could pursue them aloft and yet they could observe all in safety. Hence curiosity was strongly developed in all directions and was independent of individual interests of either fear or food. No creature, save man alone, is such a disinterested investigator. Closely allied to this is the instinct of imitation. This is largely due to the ape's highly developed social nature. He regards man because of his similarity in form as only another king ape and copies his actions as he does those of his companions, although he imitates no other species. We think him curious because he is so about us and imitative because he mimics us. The crowds about the monkeys' cage in menageries show that this interest is mutual. A reasoning ape would doubtless regard the human species as peculiarly gifted with interest in and the power of mimicking him.

II. Psychogenesis has to ask even if it cannot answer, whether the rank and tangled jungle of folklore which has grown up about trees, preserves any traces of a tree-dwelling stage in man's pedigree or whether it would have been the same had there been no such stage. Archaic as are the sources of tradition, we should not of course expect to find legends of arboreal life, however disguised or distorted, for it was prelinguistic. There are strata of the soul, however, far deeper than the roots of speech. That these may in subtle ways influence mythopoeic fancy when it evolves long ages later seems to me not inherently improbable, although how it works is far beyond our present ken, nor so far as I know has the question in any such form as this ever been asked. Even though it cannot be answered, it can no longer be escaped. Hence, we must boldly inquire whether the myths, beliefs and customs of primitive people can all be explained by the fact that the life of the stirp ever since it attained humanity has been so often and profoundly associated with and dependent

upon forests or trees for shade, sustenance, utility, etc., coupled with the fact that man's mind is profoundly animistic; or whether beyond this we are justified in inferring still older residual normative influences that hark still farther back to life in and not merely under the trees. Only suggestions admittedly provisional and conjectural can be given and these are as follows.[1]

The folklore of a number of races describes men as sons of trees and trees as the parents of men. To cut them down is matricide. Men either emerged from their trunks or sprang from seeds that grew upon their branches. In them perhaps are the souls of the unborn who await birth or at death the soul may re-enter their substance. In other languages than our own, phrases like *descended from* or *come out of trees* have the same ambiguous meaning as *down from* or *out of the body of*. Now, is it not easier and more natural to suppose that the latter difficult, not to say absurd, idea grew up into consciousness as it were protectively by the misinterpretation of older and more truthful residues in the organic memory of life among the branches? How unless by *Verschiebung* could so fantastic a view of the origin of life, so remote from common observation, as that human forms should exhale, exude or emerge out of tree trunks or sink back into them arise and gain credence, unless it was sustained by attraction into some analogy with deeper and older psychophysic momenta which, though entirely unconscious, blindly impelled the barbaric soul to assent because life had really been in the trees. Interpreting as we always should, what myth says by what it means, a fact in man's phyletic history really did thus find outcrop, although adumbrated and in perverse form far later. He really did come out of trees and he could be and was thought to have been in them because he actually was on them.

Again, primitive sylvan men might easily ascribe sentiency to trees, think their sap blood, their bark skin, their leaves clothes, their root feet, their limbs arms, their noises voices and oracles and thus come to regard them as besouled and ascribe to each common species its own psychic traits, as strength to the oak, grief to the willow, fear to the poplar. They might personify individual trees, make them guardians, sympathetically bound up with the life of human individuals,

[1] A few references, themselves typical, will here serve as an open sesame to both the vein of thought and the literature upon it here implied. Mannhardt's Baumkultus, Berlin 1875, 646 p. *Ibid.* Antike Wald-und Feldkulte, Berlin, 1877, 359 p. Philpot's The Sacred Tree, London, 1897, pp. 179. See also for literature J. O. Quantz's Dendropsychosis, *Amer. Jour. Psychol.*, vol. 9, 1897, beginning page 467.

and feel grateful for shade in desert heat, etc., but why in addition to all this should these tree souls be attracted into human forms so very different from their own? There might be metamorphosis into trees as in the case of Daphne, Cybele, Phyllis, or as in flowers of the Clytie group; trees might be sacred to certain deities, the oak to Zeus, the laurel to Apollo, the myrtle to Aphrodite, etc., but why should the tree *numen* or sprite take complete human form so that to cut trees is to dispossess or discarnate an anthropoid soul? Yet we have a large group of myths in which the dryad maidens emerge from and vanish into or souls are locked up in their substance, and it is often to these highly personified beings that prayers are addressed for propitiation, *e. g.,* before they are felled. This is never found to any such degree in the case of flowers or herbs useful for food or medicine or in any other form of vegetable life. Thus, again, we have an unexplored residuum which points to, if it does not justify, the presumption of a once closer relation with dendritic than with other botanical forms.

III. Once more, the gods are often semi- or quasi-arboreal in their habits. Some live in tree-tops and above them. They come down in storm, cloud and mist and speak to men in treey voices in which man hears also other celestial beings. Their heavenly home is projected still farther upwards where lies another country or super-earth. In many a folk-tale, children, men and weird uncanny or monstrous folk ascend to or descend from heaven by way of trees. Then there are universe trees of diverse kinds and of apparently independent racial origin that hold up the sky, whose leaves are clouds, whose fruits are the sun, moon and stars, whose roots go to the sea and hold the earth together, with deities in their tops, demons, dragons, gnomes at their root and all intermediate orders of beings disposed in due gradations between. When we reflect that the very disposition of head and eyes in the body of both man and beast and nearly all their interest and experience predispose them to orient themselves horizontally and that there is relatively little incentive to project thought, fancy or even perception upward or downward, the question is very insistent—how did man come to conceive the cosmos as he does where the universe tree embodies his philosophy of nature as vertically disposed, with the zenith and nadir perhaps even farther apart than are east and west, or north and south? Forest life lifts eyes and thought upward more than does life on the plain; so does life among mountains and valleys. Is it not possible that this altitude psychosis, that uses a tree as the apperception organ of the universe, was in part reinforced by sympathetic reverberations that still echo in the

subconscious depths of the soul from that dim voiceless past when the life of our tree-dwelling ancestors had a wider vertical range; when they were more habitually conscious than now of gravity directions in space; when changes up and down were more incessant and emphasized to their psyche by more effort as well as more danger; when the horizon was ever changing with height; when to looking were added going up and down, and orientation downward, now rare, was inveterate?

Finally, religion is in most of even the elementary faiths and cults closely associated with the altitude sense. The pious soul is almost everywhere ouranotropic. Spires and minarets point heavenward and even theology has been closely associated with celestial or astronomic thought. The influence of Druid and other sacred groves, as man's first temples, still pervades ecclesiastical architecture. Groined arches simulate leafy forest roofs. Woods with their banks of foliage absorb evil thoughts as they do the noxious carbon dioxide from the air, and their hush inclines the soul to rest by sinking back to lower and older psycho-meristic levels. Who at least can categorically deny that the pithecoid in the African jungle, who habitually slept sitting against the foot of a tree guarding his family aloft, ever conscious of a retreat or asylum in that direction in extremity, was not even then laying one of the many deep foundations in the soul of that sense of a haven aloft, which still fortifies and consoles the religious consciousness in this mundane vale of woe and danger? If such simian origins offend man's pride, they compensate by giving man's interest in heaven a more primordial phyletic foundation than it has hitherto been thought to have.

IV. Again, children are very animistic toward trees. They assume that they suffer when cut or trimmed, which is amputating their limbs. Choppers are cruel, and are disliked and remonstrated with. The oozing sap is blood or tears and when a tree is felled, a friend is lost. Branches and roots are arms and feet, as they are in myth and poetry, which often personify them. Trees like to have children around and make shade for them. They invite the birds and each understands the other. When birds arrive from the South trees hold out their hands to them and are honored if they build nests in their boughs. Birds by songs and leaves by their rustle lull the other to sleep. Trees love others of the same species, shake hands when they swing together, sympathize and whisper confidences, understand children's talk and are understood as their language is understood in turn. Leaves ask questions, are apologized to when the child goes away and

greeted upon return. When the wind mourns through them, they say "I am sad." If it roars till the branches twist and creak, they say "I am mad." They are angry at the wind and scream and slap it back. Children sit and listen as the leaves tell them stories, and murmur with soothing voices. Trees that are beautiful and give shade are good, and those that are gnarled, unusually rough, prickly, malodorous, bear bitter fruit, buds or bark, are usually bad, although sometimes they are pitied. God may come down into the trees, in cloud or fog, and their freshness thanks him for rain. They sing hymns to sun, moon and stars. The moon kisses them bright and happy and perhaps their souls go to heaven. In the spring they put on green dresses and are ashamed in the autumn when their foliage falls. Trees are hugged and even kissed. When, from the open sunlight, children enter a forest, they are hushed, awed, soothed, feel peace, tread softly, huddle together and whisper. The gloomy twilight dampens their enthusiasm. Their sense of freedom, their buoyance, romping and abandon in the open, grassy field are left behind. The simplicity and stillness of the forest are often oppressive. Both folk-lore and childish fancy often people trees with mysterious spiritual beings, protective and perhaps divine and there is a sense of safety and trust akin to religion, for the groves were God's first temples. Humility, depression and worshipfulness suggest a past where under and in their tops refuge from danger was found. Tree worship is a stage through which almost every human race has passed.

V. Another fascinating but baffling chapter in psychogenetic history is how our ancestors came to leave the leafy home to which they had become so well adapted. It was indeed a long way from the timid, frugivorous, pithecoid creatures among fronds and foliage to man. Perhaps in their favored habitat they over-populated the trees until the food supply became insufficient. Perhaps in certain localities the enemies on the ground became less numerous or the fruit and seed on low bushes were abundant or attractive, for apes are deft and rapid berry pickers. Succulent young plants, bulbs, and possibly certain fungi, attracted them. Some tree dietaries did not offer fluid enough and thus the apes had to descend to drink; or they may have followed the birds which they had driven to make nests on the ground instead of in trees or took to surface and burrowing insects as their appetite for animal food increased. Their innate curiosity prompted them to explore the ground and to trust their agility to escape their foes. Here their locomotion was more mechanical, so that attention was in a measure freed from incessant pre-

occupation with where to place each of their limbs and thus they could watch more sharply and over a wider environment. Descend they did without losing either the organic adaptation to uprightness or the psychic propensity to profit by its advantages, although there was no doubt some tendency to revert to quadrupedal habits. It was a critical epoch. Complete reversion would have made the attainment of humanity impossible and some species did thus relapse. The advantages of the manual function were, however, too great to permit the hand to degenerate again and become a paw or a foot. Food habits compelled the hand to forage for the mouth. The power of seizing gave a great advantage in capturing small animals and in conflict with larger ones. Uprightness is itself terrifying and the ability to attack from above gave peculiar advantages.

Tails became not only useless, but a positive disadvantage and gave their foes a most effective point of attack. Moreover as the legs developed and tails were unused, physiological economy would tend to reduce their size and so they dwindled and became rudimentary. Aloft they were of immense advantage but now the strengthening spinal system needed all the energies of growth. They were in the way in the sitting posture on the ground as they were not on the trees and sessile padding became more useful and so they reverted to more embryonic stages of growth, where they still persist. In a few human infants they are unreduced at birth.

Residual traces of a tail psychosis seem to persist in modern man. The very word often has strange risible effects with children and even youth, as if the very thought were a tickle center, which, as we shall see later is sometimes the last stage of a vanishing psychophysic rudiment. Evolution is far more popularly vulnerable and more easily vanquished by a grin at this point than by criticizing the assumption of man's origin from hairy creatures with prehensile feet, who ate vermin and fought with teeth. Children's spontaneous play shows vestigial tail consciousness. Tails of many kinds are made, worn, used with mechanical devices in many a savage dance and cultured masquerade and they figure in the guise of both fear and fun in many a myth, legend, story and trope. Both the folk-soul and art ascribe them to the devil and his imps and to foreigners they are represented as growing or concealed in the weird and witchy ways which superstitious thought often takes.[2] Thus, man's soul, where its residues are still

[2] S. Baring Gould: Tailed Men. *In his* Curious Myths of the Middle Ages. 1872, p. 175.

better preserved than in the body, because in the psychic realm it still functions, has not yet quite lost its caudal appendage.

The most comprehensive study yet made in this field is in two long and elaborate articles by Bartels[3] who collected records and descriptions of 116 tailed human beings which he deemed authentic and also gathered traditions and myths of tailed men, mapping out the world to show in red where they are or have been thought to live. His chart shows that tradition has located them nearly all over Western Europe, including the Thracian Peninsula and in Japan, Formosa, Sunda, Sumatra, in several parts of Africa and Southwest Asia and at least in two points in South America. He believes that such people not only exist, but are far less rare in some parts of the world to-day than in those we know best, that they tend to aggregate in remote and isolated regions where they form groups with their own peculiar customs and beliefs, that they tend to be degraded and are hated, feared, and despised by other men. Human tails differ so in form and structure that Bartels has distinguished five classes. They do not constitute a species of mankind by themselves, as Maillet thought, but do tend in fancy if not in fact to have other animal traits. Myth expatiates upon details of how they sit, ride, disguise their appendage, suffer if it is injured, die if it is amputated or even broken, etc. Most actual tails are short and cartilaginous and skinny and not very many contain bony continuations of spinal vertebrae. Cases are also occasionally described in more recent medical literature. In infants the tail mark is an indentation the size of the little finger. By five or seven it has grown shallow and perhaps is lost. In an adult female gorilla this tail mark was as large as a florin and here the tail formerly protruded in our ancestors.

At first, terrine forays were limited in range and trees were always kept within easy reach for speedy retreat in danger. Smallness and lightness of body were now over-compensated by massiveness and strength of shoulder, chest, and thigh; and body length relatively to that of the limbs was increased. As raw meat and blood became larger food factors, vigor and ferocity increased, teeth and jaws became stronger and more formidable and in the same ratio animals larger and fiercer

[3] Über Menschenschwänzte. *Archiv für Anthropologie,* XII, 1881, pp. 1-41. Die geschwänzte Menschen. *Ibid.,* XV, 1884, pp. 44-133. See also Darwin's Descent of Man. Vol. I, p. 28. *Science,* January 6, 1884. A number of representative traditions concerning tailed men are found in Campbell's Formosa Under the Dutch 1903. Wiedersheim, Der Bau des Menschen, 1908, 3, 41, *et seq.* Waldeyer, Die Kaudalanhänge des Menschen, Berlin, 1896. Steinbach, Zahl der Caudalwirbel beim Menschen, Berlin, 1889.

could be overcome. The gorilla type, which is largely terrestrial, with its huge body and powerful jaws was approximated and agility declined as strength increased. Slowly the necessity of living under and near dense interdigitating tree-tops declined and the anthropoid candidates for humanity could venture where trees were more sparse and the ground more open and sunny. Wide treeless spaces with no arboreal retreat in dire need would, however, long be dangerous and indeed such spaces were rarer in the warm climates which such creatures frequented and also in the later tertiary age than now. There have never been prairie dwelling quadrumana. One of the most singular of all the morbid fears seen not only in the hospitals for the insane but in neurasthenia is agoraphobia or an abnormal horror of open spaces that impels the patient to avoid crossing markets or public squares and to keep near houses, high walls, rows of trees, or other shelter or cover. The open country or sometimes even the thought of it makes them panicky. Just what they dread is usually unformulated but their nerves are tense and perhaps almost convulsed lest something befall if they are away from everything high which seems to shelter and protect. As nothing in individual experience can be found to account for this psychosis, the most natural explanation of it seems to be that it is a relic of the long anxious era in the past when our ancestors had only too good reason to dread the open. Its roots may reach far back of tree dwellers to earlier denizens of the forests.

In contrast to those who came down to earth the apes that adhered to the old dendritic life differentiated perhaps still more from the older common stock by becoming agile, smaller, slighter of body, varied in hue, elongating and perfecting their prehensile tails. It took very long to acquire the multifarious adaptations to tree life on the one hand or to be weaned from it on the other, and there are many exceptional variations and all grades of progress both ways. Some, like the ourang, may have come down to the earth, grown large and acquired other anthropoid traits and later have reverted under the influence of some long stress to their first love and become arboreal again, just as a number of creatures that first lived on land and acquired lungs, limbs and even mammae, became backsliders into the sea.

To permanently maintain themselves on the ground, the early pithecoids must acquire formidable jaws and teeth, great strength, acute senses, power to fight and to terrify along with cunning to escape enemies. The upright position is itself a cause of fear; for it advertises the power to use the fore

limbs in addition to the mouth in attack, and that the attack is to be from above rather than on the same level as the antagonist. The fore limbs are useful in defence as well and place those who possess and use them at a great advantage over those who fight with head and fangs only. A prehensile hand coupled with agility of body is in some respects superior to paws with claws, for if the back or tail of the foe were once seized, the battle would be over. Perhaps a new mode of fighting among the larger apes may have contributed something to the elimination of the tail. The early terrestrial apes were not able to escape their enemies by fleetness of foot, but with the semi-terrestrial stage came a marked increase of acuteness of eye and ear, for there must be increased watchfulness and hence prompt response to a great variety of sights and sounds. Danger and fear are a great school for intelligence and they tended to help diffuse the race over the earth. The great apes of to-day are still of nomadic habits. Many no doubt perished before they had made the great transition to earth, but they were many and widely distributed so that the best survived.

VI. When first placed in the upright position, the infant's head rolls off, falling front or sideways. The head is bulbous and the neck muscles very small and weak at first, the brain having far outstripped them in foetal growth. In the apes, this disproportion has at birth been largely overcome, the head being smaller and the neck muscles stronger. The cross section of the infant's neck surface will have increased eight or nine times at maturity. These are the first muscles which function in acquiring the erect position and this saves the head from many bumps in falling. Then come the muscles of the chest, back, abdomen and hips. Under emotional stress all these, especially the first three, may stiffen at the same time and make the trunk rigid in the early weeks of life. When thrown on its back or even belly and sides, the infant's head is often raised, the impulse toward verticality being early and strong. The hands cling to a finger or seize any object to pull the body up and the horizontal position becomes more and more distasteful, save in fatigue. To get up, the infant resorts to many devices. On its stomach it lifts the forequarters or gets its knees under its body and turns, twists, pries, curls hips and belly and cries for help. When sitting, as it usually learns to do alone between the seventh and ninth months, it often falls forward, backward or sideways, shutting its eyes and protecting its head from concussion with hands or arms, used both as props and as cushions. It often tends to sit too long or early and especially if unsupported may become ex-

hausted and thus open the door for spinal curvature, so that precocity at this and all stages is a common and constant danger. It is well padded for sitting without acquiring the callosities of apes and has a broader basis of support than they, as its large head makes it top heavy. It often sits with legs apart, knees flexed and the foot soles one against the other, like a true simian. It has to learn not to throw itself over backwards by straightening the legs at the hips.

Locomotion is another and later stage. The majority of infants slowly learn to creep on knees and open palms and most who do so move the limbs in true quadrupedal wise, *e. g.,* left fore limb, right hind limb, right fore limb, left hind limb. Later they learn to move those at the diagonal quarters of the body simultaneously. This is the most economic and normal, as it is also the phyletic way in which man's four-footed ancestors walked. How this inveterate stage is abbreviated and shot through by the factors of post-quadrupedal heritage is seen in many ways. Not a few infants find other modes of progression and never attain this, which is so much more natural and hygienic that it should be cultivated, if necessary, in the nursery. Quite a percentage of infants are rackers and pacers, moving both limbs on each side of the body together and alternately so that one wonders if such a fashion prevailed in some phyletic stage. Very significant for evolution, however, is the fact that by far the most common substitute for orthodox creeping is hitching, in which the fingers, palm or knuckles are pressed against the floor and the body wholly or partly lifted and swung forward as on crutches or drawn ahead by knee flexion with fixed heels.[4] This apes do habitually on trees or ground and it is favored by their long arms and light bodies. The hereditary momenta to this mode of translocation are later than those from the quadrupedal stage which latter they often suppress, despite the fact that the infant's body is so heavy and its arms so short that it is not adept in this form of movement. In such cases, older hereditary proclivities outweigh both the newer changes in bodily structure which makes hitching now so disadvantageous and also the vestiges of presimian habits. For most apes, the regular quadrupedal locomotion has been impaired or lost by tree life, as we have seen, and the determinants that persist in man have been neutralized by hitching. Hence it comes that a small per cent. of human infants ignore both modes and devise and practice the wholly new way of rolling toward desired goals.

[4] Creeping and Walking, by A. W. Trettien. *Am. Jour. of Psychol.,* Oct., 1900, p. 1-57.

While a very few show at least a stage sometimes persistent of what are described as swimming movements, by which they writhe along on the belly with little use of limbs and perhaps with no attempt to lift the body from the floor, another few develop the phyletic function very imperfectly and creep crab-wise backward or use but one leg, dragging the other, or go diagonally sidewise, while a very few go on toes as well as on hands, not touching the knees, and these most truly of all recapitulate the whole program of the phylum. Creeping is best because it involves only fundamental muscles, tends to throw back the shoulders, gives due development to the muscles at the back of the neck once so powerful and now so shrivelled, but which should be kept strong to prevent stooping later; while the thigh movements against the pendant abdomen stimulate the digestive function, and using the arms as legs in this their nascent period strengthens their extensor muscles and keeps them from early atrophy from insufficient use. I know an able and intelligent physical trainer who insists on creeping as one of the most beneficial forms of exercise for children through the grades and even up to maturity, because of its effects upon circulation, respiration and muscular culture with no reference to the evolutionary rôle of these movements in the past. He requires it always on the sole as well as on the palms. I have often observed that aberrant forms of creeping either go with or suggest hereditary imperfections.

Before it can stand, the infant often makes rhythmic alternating kicking movements in the air and against walls or other objects and these are often stimulated reflexly by touching the soles. Sometimes, though more rarely, vigorous jumping movements with both legs moving simultaneously are observed, as the infant lies on its back, as if it were practicing for the still more advanced and difficult mode of progression by leaping. This grouping of motor co-ordinations seems unique and isolated enough to imply some special innate neural mechanism which may possibly have phyletic significance when we reflect that the apes themselves were evolved from marsupial jumpers. Children often show a strange propensity for jumping, sometimes progressing considerable distances in this way in both their solitary and social plays, unnatural and hard though it is upon the muscles of the abdomen and groin where man is even yet so imperfectly adapted to the upright position that ruptures and aneurisms are sometimes thus caused. In the groin, the great veins and arteries still come very near the surface and here man is especially vulnerable to both strain and fatigue. In some idiots, both squatting and toad-

like progressions by simultaneous movements of both legs become highly developed. Religion, too, which abounds in archaic reverberations and conservative tendencies affords choice examples of both ecstatic jumping and also of pilgrimages vowed and accomplished thus, so pervaded is man's body and soul with the impulses of piety to his ancient phyletic stages.

The prior development of hand and arm functions before those of legs is seen in infants' climbing propensities. They not only pull their bodies into the erect posture, but often have a craze for climbing chairs, stairs, trying to get the top of every accessible object before they can walk and then, as Trettien shows, this instinct seems to abate for a time. Fear of falling in these endeavors is singularly lacking until learned by painful experiences. Some climb through the rounds of chairs, into vehicles, on tables, mangers, or pens, up ladders, low-branched trees, watering troughs, fences, etc. They also get down backward, hitching to the edge, *e. g.*, of a bed, grasping the clothes, sliding until the feet touch the floor and then dropping heavily. A few go down head and hands first. Some climb stairs by the aid of banister rails, drawing themselves up and going chiefly upon their knees. Most descend backwards, sitting down step at a time, perhaps resting and looking up and down. Some slide feet first on the belly, catching at every step and thus may go down as fast as an adult.

Infants first stand by holding onto objects with one or both hands. Often they get on all fours, resting one hand and then the other to the support, commonly rising onto the feet first and then elevating their forequarters. Some, however, pull themselves erect from a sitting posture. This is often first done to get an object above their reach. All these arts are often unconscious means of attaining a desired end, as are the first steps in walking, usually taken clinging to objects, perhaps with alternating hands. This stage suggests erect quadrumanal locomotion. Curiously enough some children are able to walk more bravely and steadily if clutching their own dress. The first standing pose of the body is inclined forward with both knees and hips bent. Between ten and twelve months, most children learn to bear all their weight upon their feet and at this stage are less desirous of being held and are more in love with the floor. After walking alone around, or along walls or sofas or clinging to the mother's dress, they launch out away from all support and take a few tottering steps alone. This involves much effort, and respiration and pulse are quickened. If others are observing or the infant is

coaxed to go, *e. g.,* from one parent to another and is made conscious, there is great joy and excitement and the child breathes hard and fast and laughs with satisfaction. If the proud realization of what they are doing comes over them when under way, they often fall promptly. The first steps often mark time without progress and the feet are usually pigeon-toed in their positions, the arms waving about to balance the body or extended toward the goal.

Having learned to walk with confidence, children fall so much in love with their own accomplishment that they often overdo and become nervous, sleepless, and fretful from fatigue, so stimulating is success. Normally, however, walking causes marked improvement in circulation, respiration, digestion, appetite, and strength. The muscles of the calf, the upper leg, hips and back grow strong, although the roundness of the legs often decreases at first from reduction of the fat. The vertebral grooves are filled and the buttock and spine grow taut. The check ligaments, that lock the knee and hip in position so that the body weight is thrown on the bones to the relief of the muscles, increase in strength. The hands are now more free. The curve of skill rises suddenly upwards and mischievousness increases. Many children show marked propensity to carry things. Temper is usually much improved and the child occupies and amuses itself more. As the power of locomotion increases, children often walk on and on in any direction, as if they desired to explore or be independent. Some toddlers have a blind instinct like young chicks to follow any moving object, a stranger, a wagon, with no sense of home, as if a migrant or nomad instinct broke out and suddenly took control before it was inhibited by home instinct. This is not yet running away, which comes later and is reaction from home restraints, but is merely the impulse to keep using a new power.

Having learned to walk, some children cease to do so after a time and revert to creeping. Temporary reversion may be caused by sudden consciousness, fits of anger, laughter or exhaustion. Some neuro-muscular diseases, like infantile paralysis, set in at this vulnerable point. There are defectives who have walked, then reverted and may have to learn again years after or never. A bad fall intimidates and sometimes causes a setback of weeks or even months. One child, who had just learned to walk, took a long railroad trip during which it was carried much, after which it returned to creeping for a time because of interrupted opportunity for practice. Hurry and impatience may impel a child to have recourse to creeping because it is faster than his earliest upright gait can

be. Severe fits of laughter and crying cause temporary reversion by exhaustion afterwards as well as by incoördination at the time. Downward pressure on the viscera in these spells brings fatigue to the lower abdominal muscles and possibly soreness and sometimes hernia arise in this way. With the body erect, the heart must support and work under a hydrostatic pressure of the entire column of blood, since the valves of the veins are still adjusted more to the horizontal than to the upright position, which thus indirectly may cause varicosities, hemorrhoids, etc. Disease at the critical stage so depletes that walking often has to be learned all over with every stage of tottering, interference, stepping on one foot by the other, etc. This may occur in children two, three, four, or more years old and even with adults who are long bedridden. Of 111 idiots who learned to walk, Ireland found the average age at which they did so to be 2½ years, or 1½ later than the average time for normal children. This delay may be due to neuro- or myopathies or to lack of spinal or psychical power.

Walking should not be forced or coaxed prematurely. Most children now walk too early. The nursery appliances of the future will doubtless be designed to prolong and amplify not only the creeping but the climbing stage so that the child may linger here until the full benefits of this recapitulatory stage are secured, and thus be safeguarded against too rapid an abbreviation of the phyletic stages. Climbing can be so provided for as to insure in its nascent stage the best physical development which the child can receive at this period, during which time it can do more than anything else to give the child mental control of the manual function as the race acquired it.

When we consider the number, size, weight relative to that of the whole body of the muscles required for uprightness, the complexity of the motor adjustments involved in the locomotion of a creature whose center of gravity is so high and poised on so small a surface of support as the ankle joints, and the energy required to lift the heavy head and shoulders, the voluminous discussions whether this perhaps greatest and most epochal step in all the history of man's advancement is reflex, automatic, instinctive or conscious, seem to be both idle and barren. All these factors are involved in learning and there can be no doubt from the records that the proportions of each differ greatly with different children. Precocity here seems disproportion and disharmony, for some joints, muscles, lower or upper centers are overworked and suffer as they would not if walking were delayed till they were ripe for

concerted action. If we look through an inverted lens at a man walking, we are amazed to see the incessant balancing activities and how with every step equilibrium is lost and restored again by new props and this even in those who move with most grace. Hancock, too, has shown that all who attempt to stand motionless with eyes closed, constantly sway, rock and recover in all directions. This shows the price we pay for even the degree of erectness we have thus far acquired.

Since man became habitually erect, his bodily size and form have increased or changed but little. The very posture gives a sense of superiority, if not of pride and aspiration and is itself a kind of excelsior motive. Some of these sentiments are expressed in the act of strutting and are weaker in stooping or short persons. The field of vision is thus greatly enlarged. Man can look down on most animals, even those far heavier and stronger than himself, and is impelled to still further widen his horizon by climbing hills, towers, making mounds, etc.

Very significant is the point urged by Turner, Keith, Manouvrier, Monro and others[5] that man assumed the erect attitude early, perhaps rather suddenly, as of great advantage in fighting and handling things and possibly in some limited geographical area, while his brain was still quite undeveloped. Erectness among the quadrumana is of all degrees from 90° to zero and the last stage in assuming it, *i. e.,* from semi-erectness like that of the gibbon or ourang, was greatly accelerated. Only when bipedal locomotion became habitual and thus the line between brutes and man was crossed began the far longer and more varied period of cerebral development. It has even been suggested that possibly the destruction of forests by geological catastrophes and the existence of two hostile species of apes often engaged in mortal combat might have accelerated the erect position. Once having used and still more having begun to shape weapons, the hand commenced its long process, continued perhaps through post-tertiary ages, of developing the brain.

If we synthetize by the aid of a few hypotheses such facts and opinions as can be gathered from experts, another special line of human development may be roughly outlined as follows. One function of the hairy covering of so many of the higher mammals has been protection from insects, against the invasion of which the hairs served as a *chevaux de frise.*[6]

[5] See especially Prehistoric Problems, by Robert Monro. Edinburgh, 1897. Chapters 3 and 4.

[6] See W. Kidd. The direction of hair in animals and men. London, 1908, p. 154.

Insects were not only very likely the first forms of life to emerge in vast numbers from the primitive sea, but resisted the advent of many other types of life into their domain. Beginning then with the behaired stage of our forbears, the first problem is, what led to depilation? The warm climate in which they existed before the refrigeration of the last glacial age, made hair unnecessary for protection against cold. Thus the fur of many grew scanty just as the coats of some of them now become thin in summer and thicken again in the winter. The tropical lice and other vermin and parasites and insects that make pelts their home or lay their eggs in or on them were not only troublesome but sometimes fatal. The struggle for existence against these invading armies must have been long and bitter. Non-prehensile tails were modified and developed as weapons in this warfare. They at least became longer with tufts of hair switches and the coat on the body of most animals became as it is now thinner where the tail could lash the body, as in some species it does almost continuously. Many species of insects have learned, as if with great sagacity, to avoid these tail-swept areas and to suck blood or lay their eggs in parts where they cannot thus be dislodged. Insects often create panics and breed pestilence among animals and utilize hair for their protection. They have thus been able to exterminate some species of quadrupedal life, for their instinct of attack has developed faster than the adaptive defences of thickness, toughness, quality of hair, etc., which the slower organic function evolved against the encroachments. Defence against the ravages of insect life, therefore, was for a long time a very vital problem.

As soon, however, as the manual function developed, even in the pre-simians, it was used against insect pests. Some writers have estimated that one-third of the waking time of the lower apes was occupied in hunting vermin in their own hair and skin or in that of their mates. This was one of the chief primitive forms of toil and toilet and one of the principal early uses and developers of both the manual and digital function. If we conceive that the insects resented the advent of the higher mammals and sought to subordinate them to their own uses, it was here that their purpose was chiefly thwarted. This contest was doubtless long and severe and through it all short coats of hair and skillful fingers gave great advantage, and so density of the hirsute covering became unnecessary just in proportion as the hand grew more apt. Thus perhaps there came a time when a sparse, short, delicate coat of fur was a sign ostensive of manual cleverness, a token of higher development. Hands that could keep the dermal

surface free from all invaders could also protect and provide and so the early stages of progressive nudity became associated with superior efficiency and then well-kept skins acquired a new value in sexual selection. They were the *chef d'oeuvre* of workmen who were masters in this craft. This at least I suggest as more probable than the theory often advocated that this war upon insect infestors became a blind rage which tore out the hair with the vermin. It seems to me better, too, than the view that at a certain stage our anthropoid forbears dimly realized that to exterminate these swarms of minute enemies they must destroy their cover and so deliberately went to work to divest their skin of hair.[7]

This process had doubtless begun and had proceeded we know not how far when the cold of the Glacial Age slowly supervened. Before it many of the most noxious insects disappeared and instead of being undesirable, hair now acquired a high value as a protection against low temperature. The great apes of the Pliocene were already too far divested of their hairy covering to withstand the climatic rigor and we find those that were not exterminated by it retreating to the south of Europe and to Africa. They had undressed a little too much so that even their descendants are still unable to thrive in the North. But there was a choice remnant of superior anthropoids who, by stages elsewhere described, had achieved the immense discovery of the uses of fire and of caves and, what was no less important, had learned how to kill wild animals and to use their hides for covering. It was at this great culture stage that although the ground was cursed and men driven out of their paradise, they were still able to survive.

The hides which were man's first clothing were worn next to the skin and acted as men's hats now do to make the covered parts of the body progressively bald, while hair persisted as it does to the present time on the lower legs and arms and on the open chests in men because these parts were exposed. If the roughly prepared inner surfaces of the hides were worn next the body, they would wear off with an action like that of constant shaving. Aesthetic ideas, however, would cause the heavy side to be worn outward and the soul itself was somewhat animalized by the instinctive assumption of some of the qualities of the beasts whose somatic masks were worn. This personating tendency was furthered by savage animal dances in which the characteristic postures and activities of the animals whose coats were worn were imitated and were

[7] Bölsche, Wilhelm: Das Liebesleben in der Natur; eine Entwickelungsgeschichte der Liebe. Diederichs, Jena, 1906, pp. 22-101.

sooner or later conventionalized. If and where the fur was worn inward, the heat thus generated would cause the hair follicles to degenerate. This process of denudation, however occasioned, was in general most active and most complete on the more vital parts of the body. Thus during the long Glacial Age from which we have not yet quite emerged, a two-fold habit arose. Under the open heavens man's body was heavily if somewhat clumsily covered, while within the shelter of the cave-homes this envelope would be thrown aside. Nudity, partial or complete, became the rule among those that were co-domiciled and perhaps consanguineous, while those outside these oecal groups knew their associates only as clad. Thus nudity came to suggest the intimacy of similar circles, night, sleep, huddling together for warmth. To strip thus became associated with more intimate personal relations. Man had now lost most of his brutish traits of form and feature, but although the rude utensils he had evolved were fast tending to stereotype his physical frame by making further changes in it unnecessary for survival, and throwing the gravamen of selective factors over into the psychic sphere of ingenuity and skill, the body was still more or less plastic.

It was at this point that sexual selection became a much more potent factor than before, putting many finishing touches upon both man's soma and his psyche. Outside, the struggles of war and hunting were keen, but the very hardships and cold there favored abandonment to pleasure at home where lust and erotic passion had free course. Men became more bestial than the animals that were less sheltered from climatic influences and industrial hardship and could not doff their clothing and therefore lacked the aphrodisiacal stimulus of nudity. Under these influences men grew weak and the diseases of incontinence arose and decimated the race, for love was never so brutish.

Erectness also brought the sexual parts more to the front where they were less concealed by the thighs and more exposed to observation as well as to injury. This contributed one factor to the new sex consciousness associated with the upright posture. Another was caused by the fact that these parts now first came into the range of the eye of their possessor so that his knowledge of them was less subjective and more and more visual. This, together with their greater exposure, would of itself enable man in Scriptural phrase to know that he was naked, and would perhaps become the prime motive for clothes. Erectness also brought a vis-à-vis mode of sexual approach instead of the old a tergo method that had prevailed throughout the earlier quadrupedal stages. This

would not only favor prolongation of the act because the position of both parties was less constrained, but would enlarge and mutualize the surface of contact and bring to reinforcement of the act new stimuli arising from secondary parts and functions such as breasts and lips in the embrace. With erectness developed the necessity of more repetitions of the act in order to ensure impregnation. Still more significant was the fact that the hand could now for the first time be used directly as an organ of stimulation. Now, self-abuse became possible and, most significant of all, the male could artificially provoke the female's desire and failing this, by forcing, consummate his approaches. Thus as an indirect result of uprightness came what Genesis intimates was the first sin or fall of man, in the practice of intercourse at other than the stated periods when nature inclines the female to submit to it and also for the purpose not of offspring only, but for pleasure as well. Throughout the mammalian world, save in man alone, the female elects times and seasons and her preference is supreme, but the upright manipulative male of the human species now usurps to himself this power and he and not the female, as Scripture indicates, is responsible for this new and unique relation, the consequences of which are so complex, far reaching and hard to trace. The more we learn to regard the study of man from the biogenetic standpoint, the greater the significance that will attach to this change. It was probably not the original and only cause of sin in the world, although man has not yet sufficiently emerged from its effects to pass final judgment here. Despite the evils it involves, it may not have been wholly bad and our race may yet reach a stage of development when instinct shall have passed under the control of reason so enlightened that conscious stirpiculture will improve on nature.

Sooner or later, however, and surely if slowly, arose the great reaction that first made our forbears human in their love-life, in which they were last to reach the level of manhood. The cause of all this woe and sin was dimly felt and man rallied and recoiled from his fall. Sexual shame arose and he knew that he was naked. Here he finally parted company from animals and became man in this last new and momentous consciousness of sex. His very excesses brought home to him a new sense of its acts and organs, in the exercise of which he had hitherto lived not in but below the state of nature. He felt in a vague passive way that he was not normal, but morbid, and thus morality in its most vital sense awoke. Acts hitherto left to blind instinct were realized and conscience awoke to its own higher life and began this greatest

of all its tasks and one not yet finished, that of purity. Its first impulse was concealment and modesty took its rise. Exposure aroused passion and so parts on which nature has lavished so much of her consummate skill and art were concealed. Attention must be diverted and long-circuited from primary to secondary sex qualities. So here a tendency which had probably begun in the stage of stark nudity was intensely reinforced. Other parts of the body were made attractive, partly for the sake of distraction. The skin was painted, tattooed and scarred with ornamental and heraldic designs. There were many decorative mutilations. Elaborate hair coiffures and artificial dental deformations were in vogue, and strange and multiform ornaments were devised. But the offending organs themselves were hidden by many a device which the old sensuous impulses tended to make more alluring than exposure, for coquetry was not easily diverted from its old direct fashions. Perhaps still more important, at least in some communities, was the fact that the sexual act itself was ritualised in many a suggestive and obscene dance. The organs, acts and all their symbols were ostentatiously paraded but in so doing all were given a new and sacred character, for to conventionalized restraint and spiritualized love, religion owes a great debt. Thus the very grossness of these saturnalia, though alluring, also tended to bring the Aristotelian catharsis so that their very indecency had at first some value as an immunity bath. Passion spent itself in inflaming the heart and mind and the body sometimes escaped scathless. Prolonged excitement and temptation vicariate for sin and there was thus some gain. Instincts expended some of their force in the realm of feeling and imagination and stopped short with these.

Here, then, we find the psychological agencies of the impulsions that led to celibacy and all its complicated psychoses, tentatives and devices against the indulgence which has since appeared in the world. Thus the foundations of the deepest sense of sin and unworthiness were laid. Man was far in advance of all other creatures in other respects, but had fallen far below them in this. In the very fact of this new aspiration, he entered morally upon his kingdom. His self-consciousness, which had been rudimentary, was now prodigiously widened, deepened, enriched and intensified. He now first began to muse on the perennial theme of his place in nature, comparing himself with other creatures. This led to various institutional initiatives. Women were set apart more for and by individual men. Paternity began to be traced more carefully and valued more highly. Monogamy increased

and pedigrees were carefully kept and transmitted. Chastity was enforced by men on women, often by crude physical means, like infibulation, binding, confinement, as well as by pledges, vows, oaths and dire penalties. It was fixed for children for at least a certain period after the dawn of pubescence, and was sanctioned by custom and law.

Dress for modesty came to cover more of the body. Charm, which had prompted cruder decorations of the skin, was transported to its covering. Decorations as well as clothing were for the sake of virtue or to obviate temptation and not merely for warmth and protection. The charm of hair was concentrated upon that of the head and beard and there it was treated in elaborate and conventional forms. The foundations of marriage were improved and it was regulated by elaborate codes prescribing its limits of consanguinity and tribal order. All infractions of these unwritten rules were penalized. Slowly, prostitution was set apart by itself and female purity and virginity and even the hymen were given an unprecedented value and were sometimes sanctified by the superstitious. Phallic religions arose because sex was becoming mysterious and holy. In the struggle of lust with constraint, unnatural perversions arose and there were orgiastic outbursts of nameless vice, but these were slowly restricted in time and place or given prescribed forms. There were debauches of lust as well as of purity and this brings us well down toward historical beginnings and to lower races which are ascendant or moribund largely according as this struggle turned with them.

Under these conditions, the human form itself inevitably declined and the agencies of sex selection were diverted when it became habitually veiled. Labor, hardship and indulgence had all co-worked to impair its beauty and even ugliness with continence often came to be of more or less value. But the old delight in nudity is inexpugnable and always reasserts itself upon occasion. Sparta's nude gymnastics for both sexes, painting and statuary, the tendency to expose the body in various form of modern athletics, in the ball-room, in bathing resorts, etc., show by the very attractiveness of these reversionary influences how great and long was the fascination our remote ancestors felt in seeing and being seen to their skin and in thus restoring to acquaintanceship some of its antique physical completeness. We are slowly seeking and finding the old and potent stimulus of developing a body we are not ashamed to show, but in so doing we are now eliminating gross suggestion, save to the impure.

A CHILD'S QUESTIONS

By William E. Bohn, Ethical Culture School, New York City

A part of our difficulty about education results from the fact that trained educationists usually limit their observation to children more than five years old reacting under schoolroom conditions. Yet it is indubitable that the most important facts about life are learned before the fifth birthday and that the child's natural curiosity and inventiveness have freest play outside of school. The fragmentary materials of this paper are set down as an indication of the range of intellectual interests of a child up to the beginning of the sixth year.

The author hopes, however, that the form of the material will not be without a certain suggestiveness. He hazards the conjecture that in all of our child study we have too much neglected the very simplest guide. For physical education and for many aspects of intellectual development highly specialized tests are, no doubt, requisite. But for the discovery of the nature and range of a child's intellectual interests the child's own spontaneous questions are surely the most reliable indication. Despite the discouraging ignorance or carelessness of parents and nurses all normal children persistently inquire about their universe. If the questions often seem stupid and monotonous it is because previous ones have not been adequately answered. A child whose questions are answered will follow old queries with new ones progressively intelligent.

And these questions are something more than materials for observation. They furnish the occasions, the impulses, for the educational process. At the moment of putting a question a child will listen with interest to any answer. He will even, in the fourth or fifth year, follow out an extended demonstration or make observations covering several days.

R's question about how water flows up in the pipes is a case in point. She assisted for an hour while a member of the family constructed a miniature water system in the bathroom. Several days later she took a great interest in the city reservoir when she was taken to see it. Of course she could not understand the principles of physics involved in the distribution of the water, but she understood the method of distribution in its main features—far better, no doubt, than many of her adult townspeople. She was then in her fifty-sixth month. Eight months later she happened, of her own accord, to get to talking about this experience and showed, in response to questions, that she remembered the chief part of what she had learned. Several similar cases could be cited to show that the interest indicated by a child's question may be deep and comparatively permanent.

The record of R's questions is extremely fragmentary. The questions are in nearly all cases set down exactly as they were asked, but very few out of many thousands have been preserved. A more generous record would show that she has covered a very wide range of the affairs of man and nature. She has asked about her own anatomy, all sorts of mechanical devices, the lives of her parents, the growth of plants and animals, the origin and nature of the earth and heavenly bodies, the wind and weather, the origin and future life of man,—

and so on *ad infinitum*. She is not at all an abnormal child. The author has observed several other children whose questions covered an equally wide range. No doubt the average child furnishes us before his sixth year with the opportunity to lay for him a considerable foundation for an intellectual life.

To be sure many of the questions can be answered only fragmentarily. Many of the answers, moreover, will be so misunderstood as to add shadows to the dark places. At best some of queries put at five cannot be answered at fifty—and could not be if the eager questioner were to live to be five hundred. They are among the permanent human problems. But these are precisely the questions which must be answered carefully and honestly if the child is to go on from question to question and from answer to answer. If he asks in all seriousness where he came from and how the earth was made and is put off with palpable fabrications he will come to think that the adults are not concerned with these matters so vital to him or are ignorant concerning them. So he will grow uncommunicative. And when, later, he goes to school and a lot of information he never asked for is hurled at him he may be set down as "unresponsive," "intractable," or "subnormal."

On the other hand, if his questions are answered he will develop a right attitude. He may misunderstand the replies or forget them; but he will come to regard the world as an intelligible place, and intelligible for him. And this attitude is what we are working for.

List of Questions

18th month. Mamma, daddie—rain? (R's father was not at home and it had begun to rain. The question meant: Mamma, is daddie out in the rain? The importance of it lies in the indication (1) of imagination, and (2) of concern for the welfare of another person.)

19th month. What that? (This question was asked while R was looking at a picture. It became a formula applicable to anything which she did not understand. Later in the same month it changed to "R don't know that," and in the 23rd month to "R want to know that."

26th month. What Mother and Daddie talking about? Right—wrong. What is right? What is wrong?

27th month. Where do eggs come from? What do mammas lay? (This question resulted, naturally, from the answer given to the preceding one.)

28th month. Fall—fell. Fall—fell. What is fall? What is fell?

29th month. What is the navel for?

31st month. R. Daddie, were there any people here before we were?
Father. Yes.
R. How did they get here?
Father. They were born just as we were.
R. Was the earth here before there were any people?
Father. Yes.
R. How did it get here if there were no people to make it?

33rd month. Daddie, did you ever notice that when you have been away for a long time your own house looks strange, like some other house?

38th month. Why do they call a cow a cow?

42nd month. Mother, where is your mother? Where did she go? (In varying forms this question was often repeated.)

43rd month. Who made the earth? Was there ever a time when we

weren't on earth? (These questions were asked while R was modeling in clay.)

53rd month. Before the first mother was there a mother?

55th month. There are two meanings for the word *globe*. One is a "sphere," the other is "the paper." Why do they call the paper The Globe?

56th month. How does water run up in pipes?

57th month. How did the first man get here without any mother? How was the water made? What is rock made of?

58th month. What is sleepy-sand? How does it get into our eyes in the morning? Why don't we say twenty-ten after twenty-nine? (The explanation of the decimal system which followed this question helped R to learn to count.) Won't you tell me what the names of the days of the week mean? Mother, shall we love each other as long as we live?

60th month. Can I dig down and make a volcano? Has water ever been here where our house is now?

61st month. (R had been sitting silent in her room.) Daddie, is all this here?

Father. All what?

R. All these things. Is it true that I am seeing all these things?

Father. You can see them and feel of them and they are always here.

R. No; they are not always here. When I turn around they are not here.

Father. But when you turn back they are always just where you left them.

R. They are all alive. They keep coming and going. The nearer I go to them, the nearer they come to me.

Father. But aren't they always in the same place?

R. No; I just dream them, and they come and go in my dream. (After making this answer R went softly about the room touching objects and saying, "See them come and go.")

ANOTHER WORD ON "MENTAL DISCIPLINE"

By John Frederick Dashiell, University of Minnesota, Minneapolis

In educational circles nowadays psychology has come to be looked upon as an ally, even a handmaiden, of education. There can be raised some question, however, concerning the way use is made of such an alliance. Has the psychology appropriated always been correctly interpreted by the educational theorist; or, granting this, has the particular kind of psychology so appropriated been the best-balanced, the truest kind? A central doctrine of education now being worked over in terms of this science is that of "discipline," which may reward our attention here. First, however, let us look at a conception which in a sense is related to the former and may introduce us to it: I mean that of the opposition of effort and interest.

That the most important thing for childhood and youth in school to learn is to be able to put forth effort has been a fundamental theory of most institutionalized schools for many centuries past. The rod in the hands of the Roman teacher sufficiently attests its age. It was well recognized in certain schools of the later humanistic movement and especially the Lockian type of education which has so colored the English schools; and it has been fundamental also in the older institutions of the United States. But both here and in Europe it has found a stalwart young rival in the education of interest. I have called it young because it reached a somewhat later theoretical development and a decidedly later systematic application in schools, yet it really is as old as the opposite conception, having been clearly set forth by the Roman Quintilian. It crops out continually through reformers of the intervening centuries who would urge it against the education of effort that was steadily holding the center of attention.

But it was the so-called naturalistic and psychological educators (Rousseau, Pestalozzi, Froebel) who really gave the principle its telling expression, and it is the indirect influence of these men that brought the importance of interest to the attention of the American educators. Thus the traditional conception that the main function of the school is to train the child to effort, to strengthen and harden him on the harsh fare of unnecessary and unpleasant problems, has been challenged by the conception that the teacher should educate the child by perceiving and developing the instinctive tendencies and interests ripening in him.

The present is, of course, really a time of reconciliation of the two principles. Such a clear-cut opposition of camps cannot long persist in an active field of thought, especially when each side has much to be said in its favor. In general, it has been seen that such a divorce of two phases of man's mental life does violence to its true unity. What are only different aspects of one and the same complicated process are set over against each other in a mechanical fashion. Such a pigeon-hole conception of the mind has already been shaken by the organic psychology. But it seems to the writer that the reconcilers have not gone far enough, or perhaps have not seen through their own position completely. It is being said that to educate the child properly, he is to be developed first by appealing to his native propensities, and

effort is then to be expected of him in the reinforcement of the outcome of those propensities. There is a double process to be taken account of then. First, get your child interested; then see to it that his interests are strengthened and rendered productive by continuity of exertion. This doubtless is correct as far as it goes. But surely the whole process is to be taken as one. The mistake of the reconcilers is that they are reconcilers. Let interest and effort be viewed not as two hitherto hostile forces to be linked into a happy tandem, but as two phases that we may, if we are attentive, pick out of the complex behavior of a human being. Even this is not simple. When one is normally engrossed in a difficult task we may find various ways in which he manifests interest in the beginning, prosecution, and end of the task, and we may find increased energy being put forth as difficulties are encountered along the way; but the interplay of the two factors is undoubtedly subtle. The interplay is so subtle, indeed, that it perhaps should not be a startling discovery if the technique of education should some day find that it has no practical use for these two disjoined concepts.

We need not, however, go to this length. It will suffice to be reminded that the essential nature of the different phases of mental life is to be sought in the broad fundamental character of life as a whole. And life as a whole is a story of human animals behaving with reference to ends striven for; it is not a matter of reciprocal action between separate parts of mind, but of purposive action in which the individual is an (enormously complex) agent. Now as the resulting doctrine of interest and effort is very intimately bound up with the resulting doctrine of discipline, it may be well to take up the latter.

The theory of formal discipline, though we find it implicit to a degree in some ancient teaching, takes its explicit form from, say, the seventeenth century. The study of the classics had been an important part of school work for the few preceding centuries, for the absence of systematized vernacular languages and the use of Latin as the polite language of all western Europe, had made a classical equipment necessary to the gentleman and the professional man of whatever line. Through centuries of use, this classical phase of education became well organized, well intrenched, so that the development of the vernacular languages and the new literatures with their own beauties failed to drive it from its position at the center of the curriculum. But the old practical argument being of no force now, another justification seemingly had to be sought for the study of the classics. The disciplinary argument resulted. We need not agree with the statement that the disciplinary argument had its very first rise here; as hinted before, traces of it are found in ancient schools, and even as connected distinctly with the study of the Greek and Latin languages it was found in centuries earlier than the seventeenth. The argument for the practical value of these classics had been supplemented in no small way by the argument for their disciplinary value. Be that as it may, the latter contention was first given its supreme emphasis at the time mentioned.

The argument for mental discipline has been stated in a variety of ways and hardly needs restatement here. At bottom it emphasizes the training of capacities and powers through formal exercise. Though still urged by some advocates of the classics and of mathematics the theory is pretty generally assailed now, either with a view to destroying it, or, more especially, with a view to limiting and reshaping it. The form in which it is most generally attacked is as a theory of the transferability of habits. The capacity or power (habit) developed by

this narrow application was supposed to be of a broad and spreading character applicable to many different kinds of situations. For example, the study of geometry was supposed to develop powers of reasoning, the drill in Greek verbs to develop memory in the abstract, both powers to remain applicable to all sorts of problems involving reasoning and memory. The opponents have attacked this, first, by showing the theoretical impossibility psychologically of developing such an anomalous monstrosity as a "generalized habit," secondly, by showing experimentally the actual impossibility of producing a "spread of practice effect." Reconciliation has been offered by some; notably by those who urge the theory that the effect of practice along one line of work may be found in work of a very different line by virtue of certain ideals as to attitude, spirit, method, etc., developed not mechanically but consciously, and thus carried over.

The writer wishes at this point to urge the query: is this the whole of the doctrine of mental discipline? Is the training by special drills of a generalized capacity that is applicable to new and different fields, the heart of the theory? Should not the word "discipline" here be given the usual untechnical meaning of a "disciplining"? When an apprentice or a member of the "awkward squad" is being broken in he is undergoing "discipline;" when the child is being led carefully into proper ways of self-restraint, of self-organization, he is receiving "discipline" from his parent; when the ascetic strives for the ideal of self-mastery, he, too, is "disciplining" himself. In none of the examples is there reference to a single isolated function. Asceticism, which is really a mediaeval form of discipline, amounts to "the subjection or the disciplining of all bodily desires and human affections in order that the mind or soul may be devoted to the interests of the higher life." This obviously is one form of discipline in general. In its widest meaning discipline is training for a special end, by cherishing that end, by building up a regular practice or procedure for its attainment, by drilling special capacities fitting distinctly for that end, by perfecting a nice sense for the exact strengths and the exact proportions desired of those capacities, by training oneself in general habits of repression of irrelevant impulses, etc.

Discipline is now seen to be the careful and deliberate training of the mind for so appraising its environment, so selecting its appropriate stimuli and also its appropriate responses, so organizing its own powers, that one hundred per cent efficiency in attaining the goal may be approached. It is education in purposive activity. Interests, of course, play in and out of this whole process, efforts form essential phases of it; and the two are found subtly interwoven, not because they may be ingeniously joined, but because they are selected aspects taken from different points of view of one and the same piece of procedure. It is to be seen at once that the doctrine of formal discipline as it has commonly been urged is near-sighted and partial. It has picked out only certain phases of the disciplining of the mind, and has ignored their rich purposive setting. The drilling of certain specific capacities has been emphasized to the neglect of their functional stimuli and of their natural end and *raison d'être*.

As in theory so in practice. The educational procedure and method that has become traditional suffers from this same short-sightedness. Spelling ability, knowledge of history, of the principles of grammar, arithmetical computations, all these studies are still given in too much of an isolated, formalistic, unnatural manner, which fails to show the pupil their natural functions in life, which fails to show their true articulations with each other, fails to recognize youthful spontaneity,

and fails to elicit that natural and whole-souled interest that is always to be seen pervading those activities of childhood and youth that are as yet undissected and unformalized by the more intellectualistic adult mind. With our scientific habit of analysis, we usually find a complex process readily betraying lines of cleavage that indicate possible divisions and subdivisions. This is the necessary groundwork for scientific study; but a danger attends. Minute accuracy may often sacrifice vision, and close attention to detail may cripple perspective of the whole. In no line has this intellectualistic microscope shown up part at the expense of the whole more than in the traditional psychological theories of the mind. Nor has the result in practice been more sadly evident than in the traditional forms of educational organization and curricula.

THE PEDAGOGUE AND THE STAMMERING CHILD

By Ernest Tompkins, Los Angeles

Of the many questions which loom up before the pedagogue probably few have appeared with the suddenness and seriousness of that of his relation to the stammering child. According to Dr. E. W. Scripture the average percentage of stammerers among school children is 1½, and according to Dr. Thomas D. Wood there are 20,000,000 school children in the United States; so the number of stammerers among them is 300,000. Under present conditions, after those 300,000 have left school, they can say to the pedagogue, "You took away my natural chance to outgrow my affliction and condemned me to a life of humiliation and misery." A consideration of the explanation and outgrowth of stammering shows the truth of the charge.

A child that has learned to talk is unexpectedly struck a severe blow on the back by a playful but thoughtless companion. Speechless with surprise and indignation the child turns to upbraid its companion, and makes a conscious effort to talk. But speech is automatic; the effort is misdirected and abortive; the child concludes that the blow has deranged its speech permanently, so it keeps up the misdirected effort, not realizing that the effort is blocking its speech.

The principle of outgrowth is equally simple. The stammerer's speech is composed of correct talking, which generally predominates, and of stammering on the sounds which he fears he cannot say. The correct talking tends to convince him that he can talk, the incorrect talking tends to convince him that he cannot; and he will grow better or worse according to whether the correct talking or the incorrect talking preponderates. The principle of outgrowth—which is the principle of cure—is the prevalence of correct talking over incorrect talking. Therefore, if the incorrect talking is rigidly restrained outgrowth will be hastened; for what talking is done will be correct and will remove the mistaken idea of disability. If this treatment is begun at the inception of the trouble, it will be stamped out in almost no time; but if it is allowed to run for years it will become so firmly seated that it appears to be a disease.

Consider the case of the stammering child when his schooling begins. He is removed from his mother's care, under which generally his stammering has been discouraged and spontaneous speech encouraged; and is required not only to keep quiet during the study period, but to stammer when he does talk; for the embarrassment of the oral recitation brings his impediment to his mind and keeps him stammering. In short, from a condition favorable to outgrowth at home, he is transferred to one favorable to confirmation in his impediment at school. Let us consider in detail the effects of the oral work.

Testimony is universal that the stammerer will tell untruths to get out of stammering. Consequently the oral recitation forces him into dishonesty. He gives a wrong answer, says he did not know where the lesson was, or that he forgot to take his book home, in order to get out of an answer that he cannot utter. Then he is chagrined by his discredit and disturbed by his conscience. In order to get through the oral recitation he spends time that should be devoted to study in

planning easy answers; and after the recitation, often in tears of humiliation and shame, he is unable to think of anything but the wish to be dead. If every teacher in the land could be made to stammer for one week, the oral recitation for stammering children would be abolished over night. The stammering child grows to dislike school and generally curtails his education on account of the oral work. The non-stammering child, hearing the defective speech, consciously or unconsciously imitates it, and contracts the disorder. In short, the oral recitation has so little in its favor and so much against it that there is no question about its abolition. The only question is how soon will it be abolished.

The teacher should tell the stammering child that in his own interest and in the interest of the other children he must not stammer. He should be relieved of all required talking, even answer to the roll call. Questions should be put so that they can be answered by signs or by writing; and the stammering children who can write should be required to carry at all times a pad and pencil. When the child desires to say something it should be given patient attention and a quieting admonition, such as, "Take what time you need, or make signs or write." This will often reassure the child and enable it to talk; but if it does not, the alternatives should be insisted on. To avoid putting extra work on the teacher, the child may write its recitations on the board, and the correction may be made by the class. Although individual oral work should be abolished, concert work is permissible, for the stammerer can read or recite in concert. An observing teacher may make good use of that fact, for instance, by having the stammering child read in concert with one, or preferably more than one other child. The teacher who has the true teaching spirit can find wonderful satisfaction in assisting the stammering child to get free from his hateful malady. Chervin the Elder was a school teacher, and his interest in a stammering pupil turned him to the life work of correcting speech defects and his son after him.

Stammering will be exterminated by the abolition of the oral recitation for stammering children and the prohibition of stammering on school property. The work should be done at home at the inception of the disorder; but parents are not under public control. The teacher will stand behind the parents to correct what they fail to correct. Then the disorder will be unable to pass the schools, and the child who is turned out, instead of being a timid creature often unable to earn a decent living, will be a whole individual properly prepared to do his part in life. And what would have been discredit to the pedagogue will be turned into an added credit.

BOOK REVIEW

Civic Houses. By L. Armand, A. Nikitin, A. Zelenko and J. J. Koudakoff. With the addition of standard regulations, plans and estimates of different types of civic houses. Published by the Moscow Association of Community Societies, 1915. 100 pp. (In Russian.)

L. Armand in his article, "Coöperation and Civic Houses," points out that a civic house ought to be a combination of places where, on the one hand, the people may come together to discuss economic needs and problems concerning their social life, and on the other hand, places where the people may find libraries, theatrical amusements, pictures, museums and other educational institutions which constitute a part of the civic house. The builders of the civic houses ought to be coöperative societies, working independently or with the assistance of the local government (*zemstvo*). Thus the building could be used by the coöperating societies as a meeting-place for their members and would at the same time contribute to the educational needs of the community. The funds for the civic houses should be supplied mainly by the different coöperating societies, credit unions, educational organizations and by the *zemstvo*. Additional funds may be procured from banks or even from the Imperial Government. Examples of civic houses already in operation, and the method of their financing, are given.

A. Nikitin, under "Management and Regulation," proposes three standard types:

1. An organization formed by the *zemstvo* to consist of representatives from the various coöperating societies interested, local educational societies, and a special representative appointed by the *zemstvo;* in case of liquidation of the organization, the control of the civic house to pass to the *zemstvo.*

2. An independent body controlling the civic house is succeeding well in places with a large population of intelligent workers. Members of this body are drawn from those interested in the social welfare of the people. Every member pays a certain amount of money annually which gives him the right to vote at the common meeting at which all problems concerning the civic house are decided. This common gathering appoints a central committee, which has certain duties and rights but can do nothing new without the approval of the common gathering. In case of liquidation, the common gathering decides all questions as to the disposition of property and funds.

3. A unification of local societies, if there are such. All these cooperating societies are considered proprietors of the civic house inasmuch as they contributed to its building, and they appoint a committee to administer and manage its affairs. In case of liquidation the whole property passes to the *zemstvo,* or, if that body refuses to accept and run it, it is sold and each society receives its proportionate share of the sum realized by the sale.

A. Zelenko describes the civic house in great detail and gives plans and specifications. He shows that provision is made for (1) general cultural and educational work, (2) libraries for both adults and children, (3) kindergartens, (4) aquaria, (5) observatory, and (6) museum. He has worked the plans out with great care, giving dimensions and details for construction. He provides for theatrical plays—and a place

to store scenery—for moving pictures and for traveling libraries and museums, in addition to the necessary rooms for officers' and committee meetings. He also gives details as to laying out public parks and playgrounds and—a most important matter in Russia—proper protection against fire.

The book is interesting as an evidence of an awakened public spirit and a hearty coöperation by the various existing societies.

Clark University. SAMUEL ZELDIN.

BOOK NOTES

Public school administration. By ELLWOOD P. CUBBERLEY. Boston, Houghton Mifflin Co. (c. 1916). 479 p.

This is the first of a series, and is to be followed by a volume on the organization and administration of a school, and later by another on the supervision of instruction. This book is divided into three parts, I, outlines of state educational organization, treating development, control, in town, district and city. The second part treats of the city school district and its problems, evolution, organization of boards, their functions, the superintendent, his work as organizer, executive and supervisor, organization of the educational department, the teaching corps, its selection, tenure, training, supervision, pay, promotion, the courses of instruction, their construction, types, adjustments and differentiations, efficiency experts, testing results, health supervision, attendance, business and clerical work, school properties, auxiliary agencies, costs, funds, accounting, records and reports. The third part deals with city administrative experience applied. The book contains 36 figures.

A beginner's psychology. By EDWARD BRADFORD TITCHENER. New York, Macmillan, 1915. 362 p.

The author says he has here tried to write the kind of a book he would have found useful when he was beginning the study of psychology, thirty years ago, and read Bain, Mill, Spencer and Wundt. He tells us that his old "Primer" will not be further revised and that every paragraph here has been re-written, so we may doubtless consider this as taking the place of the earlier book. The chapters treated are as follows: Psychology: what it is and what it does; Sensation; Simple image and feeling; Attention; Perception and idea; Association; Memory and imagination; Instinct and emotion; Action; Thought; Sentiment; Self and consciousness; Dreaming and hypnosis.

A syllabus and bibliography of child study with special reference to applied child psychology. By CHARLES W. WADDLE and WILLIAM T. ROOT, JR. Bulletin of the Los Angeles State Normal School, 1915. 98 p.

This bulletin contains a suggestive syllabus and a valuable bibliography on especially important chapters in child study—the history of the movement, physical growth, and hygiene, biological perspective and instincts, activities with an instinctive basis, child psychology, and types and mental tests. The books referred to are all in English, but they cover a wide range, and teachers and students of genetic psychology and pedagogy will find this bibliography extremely valuable.

Government and politics of the German Empire. By FRITZ-KONRAD KRÜGER. Yonkers-on-Hudson, World Book Co., 1915. 340 p.

The author declares that this book has a purely educational purpose, and its content is in no way affected by the war, nor has he included its literature. It contains nineteen chapters, as follows: the physical basis of the German Empire; foundation of the German Empire; development of the constitution; nature of the German Empire; the Reichstag; Bundesrat; Kaiser; chancellor and his substitutes; law-making process; administration of the interior; finances of the German Empire; army; navy of the Empire; railroads, canals, posts and telegraphs; government of Alsace-Lorraine; judicial system of the German Empire; parliamentary history of Germany; Germany's foreign policy since 1871; the colonial dependencies.

Promotion of learning in India by early European settlers (up to about 1800 A. D.) By NARENDRA NATH LAW. London, Longmans, Greene & Co., 1915. 159 p.

The first book deals with southern India, its educational activities under the English, in religious and secular education. Then follow chapters dealing with educational activity outside Fort St. George, Lady Campbell's female orphan asylum, European libraries in southern India and Bengal, caligraphy as a means of diffusion of learning among Musalmāns. Book two treats of northern India, Calcutta and its vicinity, the Bellamy charity school, etc. The conclusion is that up to the end of the eighteenth century chaplains and missionaries did most that was done. The standard, to be sure, was not high, but the institutions served a useful purpose and were conducted under great difficulties.

High school and class management. By HORACE A. HOLLISTER. With introduction by Lotus D. Coffman. Boston, D. C. Heath & Co. (c. 1915). 314 p.

This work is divided into three parts. The first is the evolution and definition of the high school, its growth, function, the kind of school demanded to-day and favorable conditions for further growth. The second is on management, dealing with organization, employment of teachers, government, readjustment of administrative units, selective and advisory functions, the informal life of the school, material conditions, daily program of exercises, attendance and records. Part three is on class management and the technique of teaching. It discusses the program, technique, notes on teaching English, foreign languages, mathematics, history, science, criteria for selecting text-books and also library books.

Honesty; a study of the causes and treatment of dishonesty among children. By WILLIAM HEALY. (Childhood and Youth Series, edited by M. V. O'Shea). Indianapolis, Bobbs-Merrill Co. (c. 1915). 220 p.

The author of this book is director of the Juvenile Psychopathic Institute in Chicago, where for years he has dealt with many young people charged with dishonesty. This work is addressed to parents as well as to children. It deals with age of moral development, home conditions and parental behavior, companionship, discipline, amusement and adventure, habits—mental, physical and social, physical conditions, abnormal mentality correlated with stealing, impulsions and

obsessions. On the whole this must be called an admirable work and one at the time much needed.

Being well-born; an introduction to eugenics. By MICHAEL F. GUYER. (Childhood and Youth Series, edited by M. V. O'Shea.) Indianapolis, Bobbs-Merrill Co. (c. 1916). 374 p.

The chapters here are, heredity, the bearers of the heritage, Mendelism in general, and in man, are modifications acquired directly by the body inherited, prenatal influences, responsibility for conduct, mental and nervous defects, crime and delinquency, race betterment through heredity.

Child accounting in the public schools. By LEONARD P. AYRES. (Cleveland Education Survey.) Cleveland, Survey Committee of the Cleveland Foundation (c. 1915). 68 p.

This is one of the twenty-five sections of the report of the Educational Survey of Cleveland, conducted in 1915, twenty-three of which are to be published as separate monographs. This volume deals with the annual school census and its accuracy, number of children in and not in public schools, those not in school and not at work, suggestions for a better census, age and grade of leaving, regularity of attendance, children who are misfits, over-age, who make slow progress, size of classes, compulsory attendance, work of the truancy division, health certificates of children who go to work.

Educational extension. By CLARENCE ARTHUR PERRY. (Cleveland Education Survey.) Cleveland, Survey Committee of the Cleveland Foundation (c. 1916). 115 p.

Of the twenty-seven sections in this volume the more important are, a new development imminent in Cleveland, improvement—the essence of public education, the heart of the system, preparation for citizenship, efficiency, progress of youth, school aims at adulthood, the school and the street, school control through the teen-age, the plant equipped for wider use, after-class use of school facilities, popular demand, pressure of administrative difficulties, community centers, club-life.

Health work in the public schools. By LEONARD P. AYRES and MAY AYRES. (Cleveland Education Survey.) Cleveland, Survey Committee of the Cleveland Foundation (c. 1915). 59 p.

This report deals with the arguments for medical inspection, health and school progress, examinations for defects, objections to medical inspection, how the work started, present system, the school nurse, Cleveland's dispensaries, dental and eye clinics, co-operation of college for barbers, medical inspection staff, plan of concentrating interests, uniform procedure, vaccination, future development, ten types of health work, health and education and business.

School buildings and equipments. By LEONARD P. AYRES and MAY AYRES. (Cleveland Education Survey.) Cleveland, Survey Committee of the Cleveland Foundation (c. 1916). 117 p.

The topics here discussed are, advancing standards and developments in seven decades, beginning with the 50's. Then come discussions of the school plant, location, ornamentation of grounds, size of classrooms, lighting, blackboards, color schemes, wardrobes, etc., safety and sanitation, cost, and building problems.

What the schools teach and might teach. By FRANKLIN BOBBITT. (Cleveland Education Survey.) Cleveland, Survey Committee of the Cleveland Foundation (c. 1915). 108 p.

This is another section of the Education Survey of Cleveland and deals with reading and literature, spelling, handwriting, language, and other topics of the high school course.

Public speaking; principles and practice. By JAMES ALBERT WINANS. Ithaca, N. Y., Sewell Publishing Co., 1915. 476 p.

This volume is an outgrowth of a book published in 1911. The chapters are as follows: problem of delivery; attention, principles of attention; attention of the speaker to his topic; emotion; gesture; platform manners; voice training; study and delivery of selections; attention of the audience—interest; the expository speech; influencing conduct—persuasion—when active opposition is lacking; persuasion and belief; selecting the subject; finding material—originality; extemporaneous or written—plans and outlines.

Moral education; an experimental investigation. By WILLIAM T. WHITNEY. Boston, Leroy Phillips (c. 1915). 108 p.

This was an experimental investigation. Six hundred boys and six hundred girls were carefully studied for a period of five years. The writer kept a record of these boys and girls and compared their success in life with their success in school, and as the records are on the whole good, especially with regard to going on to higher grades, the author concludes that the kind of moral instruction he used is good.

Die Wahrheit über Amerika; eine zeitgemässe Betrachtung. Von KARL L. HENNING. Leipzig, Julius Klinkhardt, 1915. 142 p.

This book discusses the relations of Americans at the outbreak of the war and the attacks on the German Kaiser, American butcheries, inner causes of the attitude of Americans, their furnishing munitions and arms, attacks on German culture and science, German-Americans, American characteristics, marriage and family, church, school, culture, co-education, sex morality, general traits, position of the natural sciences.

The wonders of the jungle. By PRINCE SARATH GHOSH. Book one. Boston, D. C. Heath & Co. (c. 1915). 190 p.

The chapters are, the midnight pool, law of the jungle, the elephants' bath, jungle tricks of elephants, the trap, knights of the jungle, taming the buffalo, deer and antelope, camel, bears, bright birds, and the caged parrot. The book has about a score of attractive illustrations.

Eleven mental tests standardized. Eugenics and social welfare bulletin, No. V. State of New York, State Board of Charities, Department of State and Alien Poor, the Bureau of Analysis and Investigation. Albany, N. Y., The Capitol, 1915. 87 p.

The tests here chosen are as follows: form-board; construction test A; construction test B; drinking cup; motor coördination; cancellation; recognition memory; Aussage; pictorial completion; telling time and antonyms.

Report of the Commissioner of Education for the year ended June 30, 1915. Volume 1. Washington, Government Print. Office, 1915. 780 p.

The Iliad of Homer. Translated into English blank verse by William Cullen Bryant. Edited by Sarah E. Simons. Boston, Houghton Mifflin Co. (c. 1916). 332+382 p.

The spirit of the American Revolution, as revealed in the poetry of the period. A study of American patriotic verse from 1760 to 1783. By SAMUEL WHITE PATTERSON. Boston, Richard G. Badger (c. 1915). 235 p.

Brief course in algebra. By RAYMOND E. MANCHESTER. Syracuse, N. Y., C. W. Bardeen (c. 1915). 198 p.

The Young and Field literary readers. By ELLA FLAGG YOUNG and WALTER TAYLOR FIELD. Book six (c. 1915). 384 p. Book one, a primer and first reader (c. 1916). 160 p. Boston, Ginn & Co.

Northampton Polytechnic Institute, St. John Street, London, E. C. Announcements, educational and social, for the session 1915-16.

The reorganization of our schools. Some educational possibilities and practical suggestions as to the organization of schools. By FREDERIC W. SANDERS. Boston, Palmer Co. (c. 1915). 120 p.

The thinking universe; reason as applied to the manifestations of the infinite. By EDMUND E. SHEPPARD. Los Angeles, Calif., The Authors' Co. (c. 1915). 347 p.